USEPA

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

217/524-3300

December 21, 2012

CERTIFIED MAIL
7009 3410 0002 3749 7196

BP Products North America, Inc.
Attn: Mr. Thomas Tunnicliff, Environmental Business Manager
301 Evans Avenue
Wood River, Illinois

RE: 1191150001—Madison County
BP Products North America/Main Plant
ILD980700967
Log No. B-147R-M-5
RCRA Permit

Dear Mr. Tunnicliff:

As you know, the above-referenced facility has a RCRA Corrective Action permit which was issued by Illinois EPA on March 4, 2011. On May 2, 2012, Illinois EPA issued for public comment a draft Class 3 permit modification for the above-referenced facility, a former petroleum refinery. The proposed modification addressed in the draft permit dealt with removing a 9.56 acre portion of the former refinery from the definition of the facility covered by the afore-mentioned RCRA permit. The basis for this request was that the soils and perched groundwater within the subject parcel, which only extends vertically to an elevation of 418' mean sea level (approximately twenty-three feet below ground surface) has been remediated to the satisfaction of Illinois EPA. That portion of this parcel present below an elevation of 418' above mean sea level (i.e., more than approximately twenty-three feet below ground surface) would remain in the definition of the facility covered by the afore-mentioned RCRA permit.

The only public comments received for this draft permit were submitted by you. Illinois EPA has taken these comments into consideration and is issuing the attached modified RCRA Corrective Action permit for the above referenced facility. A response to each of the comments you submitted on the draft permit is attached. The response to comments document also identifies any changes made to the draft permit in response to BP's comments.

Read this permit carefully. Failure to meet any portion of the permit could result in civil and/or criminal penalties. This final permit decision is based on the administrative record contained in the Illinois Environmental Protection Agency's files which includes the draft modified permit issued for public comment on May 2, 2012, the permit modification request submitted by BP, and the comments received from the public regarding the afore-mentioned draft permit. The contents of the administrative record are described in 35 Illinois Administrative Code (Ill. Adm. Code) Section 705.211

This action shall constitute Illinois EPA's final permit decision on the application mentioned above. Within 35 days after the notification of a final permit decision, the permittee may petition the Illinois Pollution Control Board to contest the issuance of the RCRA permit issued by the Illinois EPA. The petition shall include a statement of the reasons supporting a review, including demonstration that any issues raised in the petition, were previously raised during the public comment period. In all other respects the petition shall be in accordance with the requirements for permit appeals as set forth in 35 Ill. Adm. Code Part 105. Nothing in this paragraph is intended to restrict appeal rights under Section 40(b) of the Environmental Protection Act (35 Ill. Adm. Code 705.212(a)).

Work required by this permit, your application or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. This permit does not relieve anyone from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

If you have any questions concerning this modified permit, please contact James K. Moore, P.E. at 217/524-3295.

Sincerely,

Stephen F. Nightingale, P.E.
Manager, Permit Section
Bureau of Land

SFN:JKM:1191150001-RCRA-B-147R-M-5
JKM

Attachments: Response to Comments on Draft Renewed RCRA Permit
Final RCRA Renewal Permit

cc: Ryan Hartley, URS
USEPA, Region 5

bcc: Bureau File
Collinsville Region
Terri Blake Myers
Amy Boley
William T. Sinnott II
Jim Moore

Steve Nightingale

Response to Comments Received on the Draft Class 3 Permit Modification for the BP/Main Plant Facility in Wood River, Illinois (Illinois EPA ID No. 1191150001) Log No. B-147R-M-5

On May 2, 2012, Illinois EPA issued for public comment a draft Class 3 permit modification for the BP/Main Plant facility in Wood River, Illinois. Only BP provided comments on the draft permit. This document provides Illinois EPA's response to each comment received. Each comment submitted by BP is stated re-stated below followed by Illinois EPA's response to the comment. In addition, any changes made to the permit as a result of Illinois EPA's response is also identified in the response. Finally, it must be noted that Attachment IV-C has been removed from the permit, as it was not referenced anywhere in the text of the permit.

Comment 1

The title. *Please revise the title from* "Modified RCRA Permit" *to* "Modified RCRA Permit for Corrective Action" *as presented in the March 4, 2011 Permit.*

> **IEPA Response:** This change has been made on the signature page of the permit as well as the cover page to the text of the permit

Comment 2

Page I-2 of Section I.B, Definition of Facility Covered by this Permit. *Please revise to state* "The facility which is the subject of this permit is approximately 569 acres in size. A drawing showing the boundaries of this facility is provided in Attachment IV-A of this permit; a legal description of this facility is provided in Attachment ~~IV-B~~ IV-C of this permit. The portion of the 9.56 acre parcel of land referred to as the "Donation Parcel" which lies above elevation 418 feet mean sea level is not within the boundaries of the facility covered by this permit. However, that portion of the Donation Parcel which lies below elevation 418 feet mean sea level is a part of the facility covered by this permit.

> **IEPA Response**: The requested changes will be made to the permit.

Comment 3

Page I-4 of Section I.E, Groundwater Requirements for the SFP, No. 1. *The first half of this sentence as stated in the March 4, 2011 Permit is missing. Please revise to state* "As a result of the perched groundwater route being excluded, the Groundwater Detection Monitoring Program has been removed with the issuance of the renewed RCRA Permit. The Detection Monitoring Wells G302 and G303 will be designated as GMZ Boundary Wells, and wells G301, G304, G305, G306, and G307 will be designated as Observation Wells to Condition V.D.1 of the Permit."

> **IEPA Response**: The requested change will be made to the permit.

Comment 4
Page I-4 of Section I.E, Groundwater Requirements for the SFP, No. 3. *Please revise this reference to state* "The facility must satisfy the requirements of Condition-IV.C.2 of this permit."

IEPA Response: This condition was not changed as a result of the subject Class 3 permit modification and thus it is not appropriate to modify it under this action.

Comment 5
Page I-4 of Section I.E, 39i Certification. *Please revise the subsection lettering to state* " F. 39i Certification."

IEPA Response: This change will be made to the permit

Comment 6
Page II-1 of Section II, Approved Permit Application Identification. *Please revise page number to state* "Page ~~III-1~~ II-1 of ~~III-9~~ II-1."

IEPA Response; This change will be made to the permit.

Comment 7
Page III-9 of Section III, Standard Conditions. *Please revise page number to state* "Page III-~~10~~ 9 of III-9."

IEPA Response: This change will be made to the permit.

Comment 8
Page IV-6 of Section IV.B, Corrective Action Program, No. 7. *Please revise to state* "The status of investigations and corrective action for each area as of ~~April~~ June 2012 is presented on the table below."

IEPA Response: This change will be made to the permit.

Comment 9

Page IV-7 of Section IV.B, Corrective Action Program, No. 7. *Please revise the second column heading of the table presenting the status of investigations and corrective action for each area to state* "Accomplishments as of ~~September 2010~~ June 2012."

IEPA Response: This change will be made to the permit.

Comment 10

Page IV-7 of Section IV.B, Corrective Action Program, No. 7. *Please revise the "Accomplishments as of June 2012" column entry for "Area 3 – North Central Area" to state* "CCR/IW approved September 27, 2002. Inv. Report submitted December 22, 2006; ~~IEPA e-mailed comments on Inv. Report on February 25, 2008;~~ revised Inv. Report submitted May 8, 2012."

IEPA Response: This change will be made to the permit.

Comment 11

Page IV-7 of Section IV.B, Corrective Action Program, No. 7. *Please revise the "Current Status" column entry for "Area 3 – North Central Area" to state* "~~Facility conducting additional investigation in response to comments received from Illinois EPA and will submit revised Inv. Report~~ IEPA reviewing revised Inv. Report."

IEPA Response: This change will be made to the permit.

Comment 12

Page IV-8 of Section IV.B, Corrective Action Program, No. 7. *Please revise the "Accomplishments as of June 2012" column entry for "Area 13 – Wildlife Enhancement Area" to state* "RFI Phase I report for SWMUs in area approved June 5, 2001. CCR/IW ~~received~~ approved by IEPA ~~August 11, 2011~~ October 26, 2011."

IEPA Response: This change will be made to the permit

Comment 13

Page IV-8 of Section IV.B, Corrective Action Program, No. 7. *Please revise the "Current Status" column entry for "Area 13 – Wildlife Enhancement Area" to state* "~~IEPA reviewing CCR/IW~~ BP implementing CCR/IW."

IEPA Response: This change will be made to the permit.

Comment 14

Page IV-8 of Section IV.B, Corrective Action Program, No. 8. *Please revise the "Date Filed" for the Area 2 ELUC to state* "~~February 3, 2003~~ February 5, 2003."

IEPA Response: This change will be made to the permit.

Comment 15

Page IV-8 of Section IV.B, Corrective Action Program, No. 8. *Please revise the "Date IEPA Approved Copy of Filed ELUC" for Area 1 to state* "~~March 29, 2005~~ March 25, 2005."

IEPA Response: This change will be made to the permit.

Comment 16

Page IV-8 of Section IV.B, Corrective Action Program, No. 8. *Please revise the "Date IEPA Approved Copy of Filed ELUC" for Area 2 to state* "~~March 25, 2005~~ March 29, 2005."

IEPA Response: This change will be made to the permit.

Comment 17

Pages IV-9 and IV-10 of Section IV.B, Corrective Action Program, No. 9. *Please revise to state* "As indicated above, Illinois EPA issued a No Further Action Letter for soils within Area 2, subject to certain conditions and modifications, on August 13, 2002. One of the requirements of this approval was that an Environmental Land Use Control be established which placed certain restrictions on future activities within this area. Illinois EPA approved a draft ELUC for Area 2 on January 29, 2003 and BP filed the ELUC with the Madison County Recorder as Document No. 2003R08605. Illinois EPA acknowledged receipt of the properly filed ELUC in a March 25, 2005 letter.

a. BP is donating a 9.56 acre parcel within Area 2 to the City of Wood River who intends to construct a storm water basin within the parcel. The 9.56 acre parcel being donated to the City of Wood River only extends to a depth of 418 feet mean sea level; BP will maintain ownership of the 9.56 acre parcel below a depth of 418 feet mean sea level. Madison County has assigned the parcel being donated to the City a Parcel Index No. of 19-2-08-27-14-301-003; the portion of the parcel retained by BP has been assigned a Parcel Index No. of 19-2-08-27-14-301-004.

b. Given the information ~~in~~ above, it was necessary to establish new ELUCs for the Donation Parcel and Area 2 as: (1) a parcel of land was being removed from the definition of Area 2; and (2) the vertical boundaries of Area 2 were being modified.

   (1) A draft ELUC for the Donation Property (PIN 19-2-08-27-14-301-003) was approved by Illinois EPA on November 3, 2011. BP filed a copy of the approved ELUC with the Madison County Recorder on December 7, 2011 as Document No. 2011R45888 and Illinois EPA acknowledged receipt of the properly filed ELUC in a March 13, 2012 letter.

   (2) A draft ELUC for Area 2 (PIN 19-1-08-~~0~~27-10-101-001.001, 19-1-08-~~0~~27-14-301-001.001, 19-1-08-~~0~~27-14-301-001.002 and 19-2-08-27-14-301-004) was approved by Illinois EPA on November 3, 2011. BP filed a copy of the approved ELUC with the Madison County Recorder on December 7, 2011 as Document No. 2011R45887 and Illinois EPA acknowledged receipt of the Property filed ELUC in a February 27, 2012 letter."

IEPA Response: These changes will be made to the permit.

Comment 18

Page IV-10 of Section IV.B, Corrective Action Program, No. 9. *Please revise the subsection text and numbering to state* "~~9.~~ 10. In general, the ELUCs identified place the following restrictions on Areas 1, 2, 4, and 15:"

IEPA Response: This change will be made to the permit.

Comment 19

Page IV-10 of Section IV.B, Corrective Action Program, No. 9.c. *Please revise to state* "The areas may not be used for residential purposes; ~~it~~ the areas may only be used solely and exclusively as "industrial/commercial" property as that term is defined in 35 Ill. Admin. Code 742."

IEPA Response: This change will be made to the permit.

Comment 20

Page IV-14 of Section IV.D, Parceling and Removal of Land from the Definition of "Facility" Covered by this Permit, No. 1. *Please revise the first sentence to state* "This subsection sets forth the process by which the facility may be "parceled" as part of the corrective action process at this facility, either in a horizontal or vertical fashion."

IEPA Response: The change will be made to the permit.

Comment 21

Page IV-14 of Section IV.D, Parceling and Removal of Land from the Definition of "Facility" Covered by this Permit, No. 1.b. *Please revise to state* "Each parcel eventually established in accordance with the process approved by this ~~letter~~ Permit must obtain an individual and unique Real Estate Tax/Parcel Index Number from Madison County."

IEPA Response: This change will be made to the permit.

Comment 22

Page IV-15 of Section IV.D, Parceling and Removal of Land from the Definition of "Facility" Covered by this Permit, No. 2.a. *Please revise to state* "At a minimum, as part of obtaining a No Further Action determination, an Environmental Land Use Control (ELUC) must be established which allows BP access to that parcel in the future for any groundwater monitoring or remediation efforts. It must be noted that the ELUC may also need to address certain other restrictions required to support Illinois EPA's No ~~further~~ Further Action Determination."

IEPA Response: This change will be made to the permit.

Comment 23

Page IV-16 of Section IV.E, Cost Estimates/Financial Assurance for Corrective Action, No. 2. *Please revise the third sentence to state* "The Agency's DLPC may accept financial assurance for completion of corrective action in combination with another financial mechanism that is acceptable under 35 IAC 724.246 at its discretion."

IEPA Response: This change will be made to the permit.

Comment 24

Page IV-17 of Section IV.E, Cost Estimates/Financial Assurance for Corrective Action, Nos. 4 and 5. *Please revise the subsection numbering and Conditions to state* "~~4.~~ 3. It must be noted that cost estimates and financial assurance must be provided... ~~5.~~ 4. All cost estimates prepared under the requirements of Conditions ~~III.E.1~~ IV.E.1 through ~~III.E.4~~ IV.E.3 must be submitted as a Class 1* permit modification request in accordance with 35 Ill. Adm. Code 703.281."

IEPA Response: This change will be made to the permit.

Comment 25

Page IV-B-1, Attachment IV-B, Summary of Corrective Action Submittals. *Please revise the title with the correct log number.*

IEPA Response: This change will be made to the permit.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

RCRA PERMIT FOR CORRECTIVE ACTION

1191150001 -- Madison County
BP Products North America, Inc./Main Plant
ILD 980700967
Log No. B-147R-M-5
RCRA -- Part B - Administrative Record

Issue Date: March 4, 2011
Effective Date: April 8, 2011
Expiration Date: April 8, 2021
Modification Date: December 21, 2012

Facility Contact: Mr. Tom Tunnicliff, Environmental Business Manager
BP Products North America Inc.
301 Evans Avenue
Post Office Box 167
Wood River, Illinois 62095-0167

A modified RCRA permit for corrective action is hereby granted pursuant to the Resource Conservation and Recovery Act, Illinois Environmental Protection Act, and Title 35 Illinois Administrative Code (I.A.C.) parts 702, 703, 705, and 720 through 729 to BP Products North America, Inc. for its facility located at 301 Evans Avenue, Wood River, Illinois 62095 (this facility is referred to as the "Main Plant" facility). Specifically, this modification is made to the renewed RCRA permit issued for this facility by Illinois EPA on March 4, 2011; the request for this modification was submitted December 19, 2011 by Mr. Thomas Tunnicliff, BP Products North America.

This permit requires BP to conduct corrective action at the subject facility; it consists of the conditions contained in Sections I thru VI attached herein (including those in any attachments and appendices) and applicable regulations contained in the Illinois Environmental Protection Act and Title 35 I. A. C. Parts 702, 703, 705 and 720 through 729 in effect on the effective date of this permit. The Environmental Protection Act (415 ILCS 5/1 et.seq.) grants the Illinois Environmental Protection Agency the authority to impose conditions on permits which are issued.

This permit is issued based on the information submitted in the approved permit application identified in Section II of this permit and any subsequent amendments. Any inaccuracies found in the information provided in the permit application may be grounds for the termination or modification of this permit (see 35 Ill. Adm. Code 702.187 and 702.186) and potential enforcement action (415 ILCS 5/44(h)).

Should you have any questions regarding groundwater-related issues associated with this final permit, please contact Amy Boley at 217/558-4716; questions regarding corrective action should be addressed to Jim Moore at 217/524-3295; and questions regarding other aspects of this final permit should be directed to Mark Crites at 217/524-3269.

Stephen F. Nightingale, P.E.
Manager, Permit Section
Bureau of Land

SFN:JKM:1191150001-RCRA-B-147R-M-5
JKM

4302 N. Main St., Rockford, IL 61103 (815)987-7760
595 S. State, Elgin, IL 60123 (847)608-3131
2125 S. First St., Champaign, IL 61820 (217)278-5800
2009 Mall St., Collinsville, IL 62234 (618)346-5120

9511 Harrison St., Des Plaines, IL 60016 (847)294-4000
5407 N. University St., Arbor 113, Peoria, IL 61614 (309)693-5462
2309 W. Main St., Suite 116, Marion, IL 62959 (618)993-7200
100 W. Randolph, Suite 11-300, Chicago, IL 60601 (312)814-6026

Modified RCRA Permit for Corrective Action

BP Products North America -- Main Plant Facility

Wood River, Illinois

LPC No. 1191150001

ILD980700967

RCRA Part B Permit Log No. 147R-M-5

TABLE OF CONTENTS
B-147R-M-5

LIST OF ATTACHMENTS

SECTION I: GENERAL

A. SUMMARY

The BP Products North America (formerly Amoco) Main Plant facility is located at 301 Evans Avenue, Wood River, Illinois; it began operations as an oil refinery in 1908. An additives company (Amoco Petroleum Additives Company) was added to the operations in 1957. The refinery portion continued operation until 1981, when dismantling of the refinery began. Refinery dismantling was completed in 1991. The additives operations ceased in 1996, and dismantling of that operation was completed in 2001.

As a part of the oil refinery dismantling operation, two units that previously managed hazardous waste were closed under the then-current RCRA interim status closure rules. These were the North Cell of Spray Pond 1 (NCSP1), a surface impoundment that received reactive sulfide material (U189); and the South Flare Pit (SFP), the location of a former underground storage tank that contained various non-hazardous wastes, as well as wastes bearing hazardous waste characteristics (D001, D002, D003, D008, U189, and U122). Both units were determined to be closed with waste in place (the South Flare Pit was then reclassified as a landfill unit), and received their RCRA Post-Closure Permit on September 30, 1993.

In the late 1990s, and 2000s, BP conducted further investigation and remediation of these units. Closure by removal reports were submitted for NCSP1 in November 2002, and for the SFP in April 2005. A letter from Illinois EPA dated January 7, 2008 granted approval for closure by removal of the NCSP1 pending a Class 3 permit modification request to formally remove the unit from the Part B post-closure permit. This letter also granted approval for the soils portion of the closure by removal determination for the SFP, and requested further work on the groundwater portion for this unit. Subsequently, the Permittee conducted this additional work, and based upon Illinois EPA's review of the results of this work, the SFP is now approved for closure by removal, subject to certain conditions.

This renewed permit formally removes these two hazardous waste management units (the NCSP1 and the SFP) from the post-closure requirements of a RCRA permit. Since these were the only two hazardous waste management units at the site, the renewal permit now solely addresses the remaining corrective action at the site; this includes implementing any conditions above which the closure by removal demonstrations for these units was based (these conditions are further discussed in Subsections D and E below).

B. DEFINITION OF FACILITY COVERED BY THIS PERMIT

The facility which is the subject of this permit is approximately 569 acres in size. A drawing showing the boundaries of this facility is provided in Attachment IV-A of this permit; a legal description of this facility is provided in Attachment IV-C of this permit. The portion of the 9.56 acre parcel of land referred to as the "Donation Parcel" which lies above elevation 418 mean sea level is not within the boundaries of the facility covered by this permit. However, that portion of the Donation Parcel which lies below elevation 418 feet mean sea level is a part of the facility covered by this permit.

C. GENERAL CONDITIONS

1. Because no hazardous waste management units remain at the site, several portions of 35 Ill. Adm. Code 724 are not applicable to this permit. This includes the requirements for personnel training (35 Ill. Adm. Code 724, Subpart B), preparedness and prevention (35 Ill. Adm. Code 724, Subpart C), contingency plan and emergency procedures (35 Ill. Adm. Code 724, Subpart D). However, please note that through the application of other laws, regulations, and permit conditions, some of the concepts covered by these regulations may still apply to corrective action activities conducted at the site.

2. The Permittee currently proposes no corrective action activities that would subject the facility to a RCRA Remedial Action Plan Permit (RCRA RAPP). If plans change in the future such that one or more corrective action activities would subject the facility to a RCRA RAPP, the Permittee must submit a modification request to incorporate requirements for a RAPP into this permit in addition to the plans submitted as a part of a normal corrective action document, as well as certification in accordance with Section 39(i) of the Illinois Environmental Protection Act.

3. Because this permit is for Corrective Action only, Standard Conditions III.26.a, b and d; III.29; and III.32 through III.36 are not applicable to this facility. However, please note that Section IV.E contains special requirements for Corrective Action Cost Estimates which are applicable to this facility.

D. GENERAL REQUIREMENTS FOR THE NCSP1 AND THE SFP

At the North Cell of Spray Pond 1 (NCP-1) the closure-by-removal requirements of 35 Ill. Adm. Code 703.159 have been met. This determination was made in Illinois EPA's January 7, 2008

letter (Log No. B-147-CA-70) and was based upon the review of the October 17, 2007 "Supplemental Soil Investigation Report for the North Cell of Spray Pond 1" and Illinois EPA's May 29, 2007 (Log No. B-147-M-7) letter to BP. This letter also required a Class 3 modification of the RCRA permit requesting that the NCSP-1 be remove as a regulated unit subject to the requirement of the permit. With the approval of this renewal permit, this requirement has been considered to be met and accordingly, no further action is necessary for the NCSP-1.

At the South Flare Pit (SFP), Condition 2 of Illinois EPA's January 7, 2008 letter (Log No. B-147-CA-70) stated that the review of soil data contained in the October 17, 2007 "Supplemental Soil Investigation Report" determined that the closure of removal demonstration had been met for soil and no further was needed for soil:

1. With the implementation of a Health and Safety Plan Construction Worker in the area of the SFP shown within the hyphenated line by Attachment 1 of the January 7, 2008 letter;

2. With the eventual implementation of an Environmental Land use Control as required by Attachment C of Illinois EPA's May 29, 2007 letter and the conditions set forth in the January 7, 2008 letter;

3. Provided that groundwater issues for the SFP are addressed as outlined by Item 1 thru 4 in Attachment C of Illinois EPA's May 29, 2007 letter (Log No. B- 147-M-7) and B-147-M-1).

Section IV.C of this permit addresses the requirements of Items 1 and 2 above, the remaining corrective action activities that need to be completed at the SFP. An ELUC must be established in accordance with the conditions of Section IV.C of this permit renewal before a No Further Action can be issued for the SFP. Subsection D below (Groundwater Requirements for the SFP) addresses the requirements associated with Item 3 above.

E. GROUNDWATER REQUIREMENTS FOR THE SFP

The Illinois EPA hereby approves the March 18, 2010 submittal for the SFP demonstration to exclude the groundwater ingestion exposure route for perched groundwater (locally encountered groundwater in surficial fill and fine-grained native materials (Cahokia Clay facies)) at the former SFP area (this submittal is a part of the approved permit application identified in Section II of this permit).

1. As a result of the perched groundwater route being excluded, the Groundwater Detection Monitoring Program has been removed with the issuance of the renewed RCRA Permit.

The Detection Monitoring Wells G302 and G303 will be designated as GMZ Boundary Wells, and wells G301, G304, G305, G306, and G307 will be designated as Observation Wells to Condition V.D.1 of the Renewal Permit.

2. The facility has satisfied the groundwater requirements of the May 29, 2007 (Log Nos. B-147-M-7 and M-13) and September 9, 2008 (Log No. PS08-030) Illinois EPA letters.

3. The facility must satisfy the requirements of Conditions IV.C.2 and C.3 of this permit.

4. The facility must continue to address groundwater of the uppermost aquifer in accordance with Section V of this Renewal Permit.

F. 39i CERTIFICATION

The permittee shall submit a 39(i) certification and supporting documentation within 30 days after the effective date of this permit and thereafter within 30 days of any of the following events:

1. The owner or operator or officer of the owner or operator, or any employee who has control over operating decisions regarding the facility has violated federal, State, or local laws, regulations, standards, or ordinances in the operation of waste management facilities or sites; or

2. The owner or operator or officer of the owner or operator, or any employee who has control over operating decisions regarding the facility has been convicted in this or another State of any crime which is a felony under the laws of this State, or conviction of a felony in a federal court; or

3. The owner or operator or officer of the owner, or operator, or any employee who has control over operating decisions regarding this facility has committed an act of gross carelessness or incompetence in handling, storing, processing, transporting, or disposing of waste; or

4. A new person is associated with the owner or operator who can sign the application form(s) or who has control over operating decisions regarding the facility, such as corporate officer or a delegated employee.

The certification shall describe the violation(s), convictions, carelessness or incompetence as outlined in 1 thru 3 above and must include, as appropriate the date that a new person as described in 4 above began employment with the applicant.

The 39i certification and supporting documentation shall be submitted to the address specified below:

Illinois Environmental Protection Agency
Bureau of Land #33
39(i) Certification
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

SFN:JKM:1191150001-RCRA-B-147R-M-5

SECTION II: APPROVED PERMIT APPLICATION IDENTIFICATION

The following comprise the approved permit application for the RCRA permit issued to the BP Main Plant facility in Wood River, Illinois (Log No. B-147R and associated modifications):

1. The approved permit application for the renewed RCRA permit (Log No. B-147R) issued to the facility on March 4, 2011. This application consists of the following documents:

   a. Revised Renewal Permit Application dated February 15, 2006, and received by Illinois EPA February 16, 2006. Two volumes.

   b. Demonstration regarding SSIs dated December 30, 2008.

   c. Demonstration regarding SSIs dated March 23, 2009.

   d. Demonstration regarding SSIs dated June 29, 2009.

   e. Demonstration regarding SSIs dated September 23, 2009.

   f. Demonstration regarding SSIs dated February 5, 2010.

   g. Demonstration regarding SSIs dated March 26, 2010.

   h. Demonstration regarding SSIs dated June 17, 2010.

   i. Shallow Groundwater Investigation of the SFP dated March 18, 2010. Two volumes. Additional information regarding this investigation dated June 16, 2010.

   j. RCRA Permit Application Volume 3.

   k. Revised Low-Flow Operating Procedure dated December 28, 2007.

2. The application assigned Log No. B-147R-M-5 by Illinois EPA. This application consisted of a December 19, 2011 submittal from Mr. Thomas G. Tunnicliff, BP North America, as supplemented by the following:

   a. A March 30, 2012 e-mail from Mr. Ryan Hartley, P.E. URS Corporation which contained a revised legal description of the facility.

   b. An April 10, 2012 e-mail from Mr. Hartley which contained a revised site map.

SECTION III: STANDARD CONDITIONS

GENERAL REQUIREMENTS

1. EFFECT OF PERMIT. The existence of a RCRA permit shall not constitute a defense to a violation of the Environmental Protection Act or Subtitle G, except for development, modification or operation without a permit. Issuance of this permit does not convey property rights or any exclusive privilege. Issuance of this permit does not authorize any injury to persons or property or invasion of other private rights, or infringement of state or local law or regulations. (35 Ill. Adm. Code 702.181)

2. PERMIT ACTIONS. This permit may be modified, reissued or revoked for cause as specified in 35 Ill. Adm. Code 703.270 through 703.273 and Section 702.186. The filing of a request by the Permittee for a permit modification or revocation, or a notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition. (35 Ill. Adm. Code 702.146)

3. SEVERABILITY. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby. (35 Ill. Adm. Code 700.107)

4. PERMIT CONDITION CONFLICT. In case of conflict between a special permit condition and a standard condition, the special condition will prevail. (35 Ill. Adm. Code 702.160)

5. DUTY TO COMPLY. The Permittee shall comply with all conditions of this permit except for the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance constitutes a violation of the Environmental Protection Act and is grounds for enforcement action; permit revocation or modification; or for denial of a permit renewal application. (35 Ill. Adm. Code 702.141 and 703.242)

6. DUTY TO REAPPLY. If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee must apply for a new permit at least 180 days before this permit expires, unless permission for a later date has been granted by the Illinois EPA. (35 Ill. Adm. Code 702.142 and 703.125)

7. PERMIT EXPIRATION. This permit and all conditions herein will remain in effect beyond the permit's expiration date if the Permittee has submitted a timely, complete application (see 35 Ill. Adm. Code 703.181-703.209) and through no fault of the Permittee the Illinois EPA has not issued a new permit as set forth in 35 Ill. Adm. Code 702.125.

8. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (35 Ill. Adm. Code 702.143)

9. DUTY TO MITIGATE. In the event of noncompliance with the permit, the permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. (35 Ill. Adm. Code 702.144)

10. PROPER OPERATION AND MAINTENANCE. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory, and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit. (35 Ill. Adm. Code 702.145)

11. DUTY TO PROVIDE INFORMATION. The Permittee shall furnish to the Illinois EPA, within a reasonable time, any relevant information which the Illinois EPA may request to determine whether cause exists for modifying, revoking and reissuing or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Illinois EPA, upon request, copies of records required to be kept by this permit. (35 Ill. Adm. Code 702.148)

12. INSPECTION AND ENTRY. The Permittee shall allow an authorized representative of the Illinois EPA, upon the presentation of credentials and other documents as may be required by law, to:

    a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the appropriate Act, any substances or parameters at any location. (35 Ill. Adm. Code 702.149)

13. MONITORING AND RECORDS. (35 Ill. Adm. Code 702.150)

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste must be the appropriate method from Appendix A of 35 Ill. Adm. Code 721. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, latest versions; Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, latest versions; or an equivalent method as specified in the approved Waste Analysis Plan.

b. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report or application. These periods may be extended by request of the Illinois EPA at any time. The permittee shall maintain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for disposal facilities for the post-closure care period as well.

c. Records of monitoring information shall include:

i. The date(s), exact place, and time of sampling or measurements;

ii. The individual(s) who performed the sampling or measurements;

iii. The date(s) analyses were performed;

iv. The individual(s) who performed the analyses;

v. The analytical technique(s) or method(s) used; and

vi. The result(s) of such analyses. (35 Ill. Adm. Code 702.150)

14. REPORTING PLANNED CHANGES. The permittee shall give written notice to the Illinois EPA as soon as possible of any planned physical alterations or additions to the permitted facility. In general, proposed changes to the facility will need to be submitted to the Illinois EPA as permit modification request that complies with the requirements of 35 Ill. Adm. Code 703.280. (35 Ill. Adm. Codes 702.152(a))

15. CONSTRUCTION CERTIFICATION. For a new hazardous waste management facility, the permittee shall not commence treatment, storage or disposal of hazardous waste; and for a facility being modified the permittee shall not treat, store or dispose of hazardous waste in the modified portion of the facility, until:

a. The permittee has submitted to the Illinois EPA by certified mail or hand delivery a letter signed by the permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the permit; and

b. 1. The Illinois EPA has inspected the modified or newly constructed facility and finds it is in compliance with the condition of the permit; or

2. If, within 15 days of the date of submission of the letter in paragraph (a), the permittee has not received notice from the Illinois EPA of its intent to inspect, prior inspection is waived and the permittee may commence treatment, storage or disposal of hazardous waste. (35 Ill. Adm. Code 703.247)

16. ANTICIPATED NONCOMPLIANCE. The Permittee shall give advanced written notice to the Illinois EPA of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements, regulations, or the Act. (35 Ill. Adm. Code 702.152(b))

17. TRANSFER OF PERMITS. This permit may not be transferred by the permittee to a new owner or operator unless the permit has been modified or reissued pursuant to 35 Ill. Adm. Code 703.260(b) or 703.272. Changes in the ownership or operational control of a facility must be made as a Class 1 modification with the prior written approval of the Illinois EPA. The new owner or operator shall submit a revised permit application no later than 90 days prior to the scheduled change. (35 Ill. Adm. Code 703.260)

18. MONITORING REPORTS. Monitoring results shall be reported at the intervals specified in the permit. (35 Ill. Adm. Code 702.152(d))

19. COMPLIANCE SCHEDULES. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than specified in 35 Ill. Adm. Code 702.162. (35 Ill. Adm. Code 702.152(e))

20. TWENTY-FOUR HOUR REPORTING.

    a. The Permittee shall report to the Illinois EPA any noncompliance with the permit which may endanger health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the following circumstances. This report shall include the following:

        i. Information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies.

        ii. Information concerning the release or discharge of any hazardous waste or of a fire or explosion at the HWM facility, which could threaten the environment or human health outside the facility.

    b. The description of the occurrence and its cause shall include:

        i. Name, address, and telephone number of the owner or operator;

        ii. Name, address, and telephone number of the facility;

        iii. Date, time, and type of incident;

        iv. Name and quantity of material(s) involved;

        v. The extent of injuries, if any;

        vi. An assessment of actual or potential hazards to the environment and human health outside the facility, where applicable; and

        vii. Estimated quantity and disposition of recovered material that resulted from the incident.

c. A written submission shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Illinois EPA may waive the five day written notice requirement in favor of a written report within fifteen days. (35 Ill. Adm. Code 702.152(f) and 703.245(b))

21. OTHER NONCOMPLIANCE. The Permittee shall report all instances of noncompliance not otherwise required to be reported under Standard Conditions 14, 15, and 16, at the time monitoring reports, as required by this permit, are submitted. The reports shall contain the information listed in Standard Condition 20. (35 Ill. Adm. Code 702.152(g))

22. OTHER INFORMATION. Where the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Illinois EPA, the Permittee shall promptly submit such facts or information. (35 Ill. Adm. Code 702.152(h))

23. SUBMITTAL OF REPORTS OR OTHER INFORMATION. All written reports or other written information required to be submitted by the terms of this permit shall be sent to:

Illinois Environmental Protection Agency
Bureau of Land
Planning and Reporting Section - #24
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

24. SIGNATORY REQUIREMENT. All permit applications, reports or information submitted to the Illinois EPA shall be signed and certified as required by 35 Ill. Adm. Code 702.126. (35 Ill. Adm. Code 702.151)

25. CONFIDENTIAL INFORMATION. Any claim of confidentiality must be asserted in accordance with 35 Ill. Adm. Code 702.103 and 35 Ill. Adm. Code 161.

26. DOCUMENTS TO BE MAINTAINED AT FACILITY SITE. The Permittee shall maintain at the facility, until post-closure is complete, the following documents and amendments, revisions and modifications to these documents:

a. Post-closure plan as required by 35 Ill. Adm. Code 724.218(a) and this permit.

b. Cost estimate for post-closure care as required by 35 Ill. Adm. Code 724.244(d) and this permit.

c. Operating record as required by 35 Ill. Adm. Code 724.173 and this permit.

d. Inspection schedules as required by 35 Ill. Adm. Code 724.115(b) and this permit.

GENERAL FACILITY STANDARDS

27. GENERATOR REQUIREMENTS. Any hazardous waste generated at this facility shall be managed in accordance with the generator requirements at 35 Ill. Adm. Code Part 722.

28. SECURITY. The Permittee shall comply with the security provisions of 35 Ill. Adm. Code 724.114(b) and (c).

29. GENERAL INSPECTION REQUIREMENTS. The Permittee shall follow the approved inspection schedule. The Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by 35 Ill. Adm. Code 724.115(c). Records of inspections shall be kept as required by 35 Ill. Adm. Code 724.115(d).

PREPAREDNESS AND PREVENTION

30. DESIGN AND OPERATION OF FACILITY. The Permittee shall maintain and operate the facility to minimize the possibility of fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. (35 Ill. Adm. Code 724.131)

RECORD KEEPING

31. OPERATING RECORD. The Permittee shall maintain a written operating record at the facility in accordance with 35 Ill. Adm. Code 724.173.

POST-CLOSURE

32. CARE AND USE OF PROPERTY. The Permittee shall provide post-closure care for the facility as required by 35 Ill. Adm. Code 724.217 and in accordance with the approved post-closure plan.

33. AMENDMENT TO POST-CLOSURE PLAN. The Permittee must amend the post-closure plan whenever a change in the facility operation plans or facility design affects the

post-closure plan or when an unexpected event has occurred which has affected the post-closure plan pursuant to 35 Ill. Adm. Code 724.218(d).

34. COST ESTIMATE FOR POST-CLOSURE. The Permittee's original post-closure cost estimate, prepared in accordance with 35 Ill. Adm. Code 724.244, must be:

    a. Adjusted for inflation either 60 days prior to each anniversary of the date on which the first closure cost estimate was prepared or if using the financial test or corporate guarantee, within 30 days after close of the firm's fiscal year.

    b. Revised whenever there is a change in the facility's post-closure plan increasing the cost of closure.

    c. Kept on record at the facility and updated. (35 Ill. Adm. Code 724.244)

35. FINANCIAL ASSURANCE FOR POST-CLOSURE CARE. The Permittee shall demonstrate compliance with 35 Ill. Adm. Code 724.245 by providing documentation of financial assurance, as required by 35 Ill. Adm. Code 724.251, in at least the amount of the cost estimates required by the previous Permit Condition. Changes in financial assurance mechanisms must be approved by the Agency pursuant to 35 Ill. Adm. Code 724.245.

    Financial assurance documents submitted to Illinois EPA should be directed to the following address:

    Illinois Environmental Protection Agency
    Bureau of Land #24
    Financial Assurance Program
    1021 North Grand Avenue East
    P.O. Box 19276
    Springfield, IL 62794-9276

36. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS. The Permittee shall comply with 35 Ill. Adm. Code 724.248 whenever necessary.

SFN:JKM:1191150001-RCRA-B-147R-M-5

SECTION IV: CORRECTIVE ACTION

A. INTRODUCTION

1. In accordance with Section 3004 of RCRA and 35 IAC 724.201, the Permittee shall institute such corrective action as necessary to protect human health and the environment from releases from recognized environmental conditions at the BP-Main Plant facility in Wood River, Illinois; a former oil refinery. This section contains the conditions which must be followed to ensure these requirements are met.

2. The original RCRA permit issued by Illinois EPA for this facility on September 30, 1993 required that the facility conduct corrective action on twenty-one solid waste management units (SWMUs) and nine product release sites (PRSs) (locations where product was known to have been released or where product could have potentially been released). On June 21, 2002, Illinois EPA approved a plan to expand the scope of this corrective action program to include all recognized environmental conditions at the facility. To accomplish this, the facility was broken up into nineteen (19) investigation areas so that corrective action at the facility could be addressed on an area by area basis.

3. The facility has completed a substantial amount of corrective action efforts to date at this facility. This permit summarizes these efforts and describes the corrective action efforts which must still be completed at this facility to ensure the requirement of Section 3004(u) and (v) and 35 Ill. Adm. Code 724.201 are met.

4. One of the investigation areas (Area 18) contains two units that were identified and regulated as hazardous waste management units in the RCRA permit issued to this facility on September 30, 1993. BP has since completed closure by removal for these two units (referred to as the North Cell Spray Pond 1 and the South Flare Pit). This section summarizes the status of these units relative to RCRA closure, RCRA post-closure and RCRA corrective action (it must be noted that hazardous waste management units are a subset of solid waste management units).

5. The Permittee must provide corrective action, as appropriate, for any future releases from SWMUs present at the facility or any SWMUs found during the course of facility operations in the future.

6. The requirements of 35 Ill. Adm. Code, Subtitle G: Waste Disposal and 35 Ill. Adm. Code 620 must be met, as appropriate, in carrying out the corrective action activities at this facility.

7. Investigation and remediation efforts carried out as part of the corrective action program implemented in accordance with this permit must meet the requirements of: (1) this permit and the regulations cited herein; and (2) Illinois EPA letters regarding such activities.

8. Unless there is a desire to modify specific requirements set forth in this Section, information submitted to Illinois EPA regarding the corrective action requirements set forth in this Section is not a request to modify this permit nor subject to the requirements of 35 Ill. Adm. Code 703, Subpart G.

   a. A completed Illinois EPA RCRA Corrective Action Certification form (available on Illinois EPA's internet site (www.epa.state.il)) must accompany all corrective action-related information submitted to Illinois EPA.

   b. To allow for proper review of all corrective action-related information submitted to Illinois EPA, the original and two copies of the information must be submitted.

9. IEPA's final action on the review of all documents submitted by the Permittee regarding corrective action efforts at this facility shall be subject to the appeal provisions of Section 39 of the Illinois Environmental Protection Act.

B. CORRECTIVE ACTION PROGRAM

1. A plan to conduct a Phase I RCRA Facility investigation of the twenty-one SWMUs and nine product release sites (PRSs) of concern as identified in the 1993 permit and listed below was approved by Illinois EPA on September 7, 1994; a report documenting the results of this investigation was approved by Illinois EPA on June 5, 2001.

SWMU No.	SWMU Name
8	Three Leaded Tank Bottom Disposal Area
9	Northeast Sand Pits
12	Southeast Disposal Area
13	API Separator Sludge Landform
14	North Cell/Spray Pond 1
15	Spray Ponds Other Than North Cell/Spray Pond 1
16	Old API Separator
17	Additive Waste Pit
18	DAP Spent Filter Cake Storage Area
21	Former APAC Waste Transfer Area
22	New APAC Waste Transfer Area
23	MAP Spent Filter Cake Storage Area
24	APAC Slop Oil Tank 70
25	APAC Slop Oil Tank 176
26	APAC Slop Oil Tanks 189, 190, 845, and 846
27	APAC Slop Oil Tank 277 Area
30	Korea Tank Form Disposal Area
31	Waste Phenol Accumulation Area
33	South Flare Pit
34	Amoco's Sewer System
36	Liquid Waste Collection Bin

PRS No.	PRS Name
1	Former Tank 228 Dike Area
2	Former Tank 256 Dike Area
3	Waste Oil Leak Area
4	Hydrocarbons on Water Table
5	North Tank Farm
6	East Tank Farm
7	South Tank Farm
8	Korea Tank Farm
9	Gasoline Piping Manifold

2. A Phase II RCRA Facility Investigation workplan for the SWMUs and PRSs mentioned above was approved by Illinois EPA on February 5, 2002 that was subsequently modified on June 21, 2002. The February 5, 2002 approval letter expanded the scope of corrective action at this facility to all recognized environmental conditions (not just the SWMUs and PRSs identified in the 1993

permit) and divided the facility into nineteen land reuse areas for remediation and potential redevelopment. A map of the Main Plant reuse areas is presented in Attachment IV-A to this section; these areas are also identified as follows:

Area No.	Name
Area 1	Northwest Corner
Area 2	Northeast Corner
Area 3	North Central Area
Area 4	Former Rail Yard
Area 5	South Central Area
Area 6	Former APAC Area
Area 7	Former Alkyl Plant
Area 8	North Tank Farm
Area 9	Korea Tank Farm
Area 10	East Tank Farm
Area 11	Spray Pond Area (Ponds 1 & 2 and Intake Channel Areas)
Area 12	South Tank Farm
Area 13	Wildlife Enhancement Area
Area 14	Southeast Corner
Area 15	Administration Building
Area 16	Marketing Operations Area
Area 17	Liquid Propane Gas (LPG) Caverns
Area 18	North Cell Spray Pond 1 and South Flare Pit
Area 19	Spray Pond 3

3. A substantial amount of work has already been completed at this facility. A summary of the plans/reports submitted to date regarding corrective action at this facility, organized by Illinois EPA log number (and thus the chronologic order in which the plans/reports were submitted is provided in Attachment IV-B; this attachment also identifies Illinois EPA's final action on each submittal.

4. The Permittee plans to complete corrective action for the soil and perched groundwater at the facility through the land reuse investigation remediation process. The goal in following this process is to obtain a no further action (NFA) determination for a given area by addressing recognized environmental conditions in that area. If the Permittee determines that redevelopment is not likely to occur in a given area, the Permittee will follow the corrective action process only for the SWMUs and PRSs in that area. If the potential for redevelopment of the area becomes viable in the future, the Permittee would pursue an NFA determination for the entire area (including RECs) at that time and as listed in Condition B.1. The general process for investigation/remediation of each area is as follows:

   a. Current conditions will be established for the parcel/area.

   b. An Investigation Work Plan incorporating the Current Conditions will be developed and submitted to Illinois EPA for review and approval to investigate data gaps required to properly characterize the area (this submittal is referred to as the Current Conditions Report/Investigation Workplan).

   c. The investigation, focused on obtaining soil and any perched groundwater data, will be completed. It must be noted that the groundwater within the uppermost aquifer beneath the facility is being addressed by the requirements of Section V of this permit.

   d. The results of investigation will be analyzed; as well as all other data remediation objectives will be developed in accordance with 35 Ill. Adm. Code 742; a comparison will be made between the data to the developed remediation objectives; and a determination will be made regarding the need for any remedial activities (including the establishment of engineered barriers and institutional controls).

   e. A report documenting the results of the efforts described in Items (c) and (d) above will be submitted to Illinois EPA for review and approval (this report is referred to as the Investigation Report). This report will also identify any required remedial activities (including establishment of any required engineered barriers and/or institutional controls) needed to achieve the proposed remediation objectives.

   f. Based upon the results of its review of the Investigation Report, Illinois EPA will either:

(1) require that additional investigative efforts be conducted;

(2) issue a Draft No Further Action (NFA) letter for soil and perched groundwater (if applicable). This draft NFA will identify any required remedial activities (including establishment of an engineered barrier or institutional control) that must be completed before a final NFA letter can be issued. As necessary, the Permittee will conduct the required remedial activities and submit a report to Illinois EPA for review and approval documenting the results of these activities. Additional work must be conducted by the Permittee as necessary in accordance with plans and reports approved by Illinois EPA, until Illinois EPA determines that a Final NFA letter can be issued.

(3) issue a Final No Further Action letter for soil and perched groundwater (if applicable);

(4) require some combination of the above efforts.

g. Any engineered barriers and/or institutional controls required in the development of remediation objectives must be established before a Final No Further Action letter can be issued. Plans for establishing the required barrier/institutional control must be submitted to Illinois EPA for review and approval as well as reports documenting completion of these efforts. Any other proposed remedial efforts to achieve the established remediation objectives must also be completed before a Final No Further Action letter can be issued.

h. Development of the area will proceed.

5. Plans and reports associated with all aspects of corrective action at this facility should be submitted to Illinois EPA before being implemented.

6. The investigation efforts conducted at each area must be sufficient to characterize contamination associated with the identified recognized environmental conditions present in the area. The area investigations will focus on soil and perched water.

7. The status of investigations and corrective action for each area as of April 2012 is presented on the table below.

Notes:
1. CCR/IW = Current Conditions Report/Investigation Work Plan
2. Inv Report = Investigation Report
3. NFA = No Further Action

Area	Accomplishments as of June 2012	Current Status
Area 1-Northwest Corner	NFA for soils approved December 5, 2001. Recorded ELUC approved March 25, 2005.	Comply with conditions of NFA and ELUC.
Area 2-Northeast Corner	NFA for soils approved August 13, 2002. Recorded ELUC approved March 29, 2005. Revised recorded ELUC approved February 27, 2012.	Comply with conditions of NFA and ELUC.
Area 3-North Central Area	CCR/IW approved September 27, 2002. Inv. Report submitted December 22, 2006; revised Inv. Report submitted May 8, 2012..	Illinois EPA reviewing revised Inv. Report.
Area 4-Former Rail Yard	NFA for soils approved August 22, 2003. Recorded ELUC approved September 29, 2005.	Comply with conditions of NFA and ELUC.
Area 5-South Central Area	CCR/IW approved September 27, 2002. Inv. Report submitted December 22, 2006; revised report received by IEPA February 12, 2012.	IEPA reviewing revised Inv Report.
Area 6-Former APAC Area	CCR/IW approved September 5, 2002. Inv. Report submitted December 22, 2006; revised report received by IEPA March 16, 2012.	IEPA reviewing revised Inv. Report
Area 7-Former Alkyl Plant	CCR/IW approved August 7, 2003. Inv. Report submitted June 2, 2008 to IEPA.	IEPA reviewing Inv. Report.
Area 8-North Tank Farm	CCR/IW approved August 7, 2003. Inv. Report submitted June 2, 2008.	IEPA reviewing Inv. Report
Area 9-Korea Tank Farm	CCR/IW approved September 9, 2002. Inv. Report submitted May 9, 2008; revised report received by IEPA on December 15, 2011.	IEPA reviewing revised Inv. Report
Area 10-East Tank	CCR approved June 4, 2003. Inv.	IEPA reviewing revised Inv.

Area	Accomplishments as of June 2012	Current Status
Farm	Report submitted March 21, 2008; revised Inv. Report received by IEPA on May 5, 2011.	Report
Area 11-Spray Pond Area (Ponds 1 and 2 and Intake Channel Areas)	RFI Phase I report for SWMUs in area approved June 5, 2001. CCR/IW approved by IEPA January 24, 2012.	BP implementing approved CCR/IW.
Area 12-South Tank Farm	RFI Phase I report for SWMUs in area approved June 5, 2001.	Submit CCR/IW by April 1, 2015.
Area 13-Wildlife Enhancement Area	RFI Phase I report for SWMUs in area approved June 5, 2001. CCR/IW approved by IEPA on October 26,2011.	BP implementing approved CCR/IW
Area 14-Southeast Corner	RFI Phase I report for SWMUs in area approved June 5, 2001. CCR/IW received by IEPA on October 11, 2011.	IEPA reviewing CCR/IW. 2011.
Area 15-Administration Building	NFA for soils approved November 19, 2003. Recorded ELUC approved September 29, 2005.	Comply with conditions of NFA and ELUC.
Area 16-Marketing Operations Area	CCR/IW approved May 5, 2009.	BP implementing approved CCR/IW.
Area 17-LPG Caverns	CCR/IW approved May 5, 2009.	BP implementing approved CCR/IW.
Area 18-North Cell Spray Pond 1 (NCSP1) and South Flare Pit (SFP)	See Subsection C below.	See Subsection C below.
Area 19 Spray Pond 3	IEPA approved Inv. Report on December 6, 2007; IEPA revised this letter on April 13, 2009. This letter determined that no further action required in area provided certain requirements are met and certain restrictions are placed on future activities in the area.	BP must carry out requirements set forth in IEPA's April 13, 2009 letter.

8. No further action letters have already been issued for soils in Areas 1 (6.3 acres), 2 (43 acres), 4 (29.44 acres), and 15 (11.73 acres). As part of these no further action determinations, certain restrictions have been placed on future activities in each of these areas. The restrictions within each area are set forth in Environmental Land Use Controls established in accordance with 35 Ill. Admin. Code 742 and filed with the Madison County Recorder's Office as follows:

Area for Which ELUC Established	Date Filed	Document No.	Date IEPA Approved Copy of Filed ELUC
Area 1	January 23, 2003	2003R05241	March 25, 2005
Area 2	February 5, 2003	2003R08605	March 29, 2005
Area 4	July 13, 2005	2005R38583	September 29, 2005
Area 15	October 1, 2004	2004R59615	September 29, 2005

9. As indicated above, Illinois EPA issued a No Further Action Letter for soils within Area 2, subject to certain conditions and modifications, on August 13, 2002. One of the requirements of this approval was that an Environmental Land Use Control be established which placed certain restrictions on future activities within this area. Illinois EPA approved a draft ELUC for Area 2 on January 29, 2003 and BP filed the ELUC with the Madison County Recorder as Document No. 2003R08605. Illinois EPA acknowledged receipt of the properly filed ELUC in a March 25, 2005 letter.

   a. BP is donating a 9.56 acre parcel within Area 2 to the City of Wood River who intends to construct a storm water basin within the parcel. The 9.56 acre parcel being donated to the City of Wood River only extends to a depth of 418 feet mean sea level; BP will maintain ownership of the 9.56 acre parcel below a depth of 418 feet mean sea level. Madison County has assigned the parcel being donated to the City a Parcel Index No. of 19-2-08-27-14-301-003; the portion of the parcel retained by BP has been assigned a Parcel Index No. of 19-2-08-27-14-301-004.

   b. Given the information above, it was necessary to establish new ELUCs for the Donation Parcel and Area 2 as: (1) a parcel of land was being removed from the definition of Area 2; and (2) the vertical boundaries of Area 2 were being modified.

(1) A draft ELUC for the Donation Property (PIN 19-2-08-27-14-301-003) was approved by Illinois EPA on November 3, 2011. BP filed a copy of the approved ELUC with the Madison County Recorder on December 7, 2011 as Document No. 2011R45888 and Illinois EPA acknowledged receipt of the properly filed ELUC in a March 13, 2012 letter.

(2) A draft ELUC for Area 2 (PIN 19-1-08-027-10-101-001.001, 19-1-08-027-14-301-001.001, 19-1-08-027-14-301-001.002 and 19-2-08-27-14-301-004) was approved by Illinois EPA on November 3, 2011. BP filed a copy of the approved ELUC with the Madison County Recorder on December 7, 2011 as Document No. 2011R45887 and Illinois EPA acknowledged receipt of the properly filed ELUC in a February 27, 2012 letter.

10. .In general, the ELUCs identified place the following restriction on Areas 1, 2, 4 and 15:

a. No groundwater beneath the areas, including perched groundwater, may be used as a potable supply of water.

b. Contaminated groundwater and/or soil that is removed, excavated, or disturbed from the areas must be handled in accordance with all applicable laws and regulations.

c. The areas may not be used for residential purposes; it may only be used solely and exclusively as "industrial/commercial property" as that term is defined in 35 Ill. Admin. Code 742.

d. Excavation and subsurface construction work in the areas must be conducted in accordance with a site health and safety plan designed to restrict direct worker exposure to impacted soil and impacted perched groundwater in the area and all the construction workers shall be equipped with appropriate personal protective equipment as required and specified in the site health and safety plan.

e. The soil within each area is to remain in place, except where necessary to remove it for construction purposes;

f. A detailed process must be followed in the management on any soil excavated during construction/demolition/excavation efforts in the areas.

This process allows the excavated soil to be placed elsewhere at the BP facility provided certain requirements are met.

g. Requires maintenance of engineered barriers over certain portions of each area as follows:

Area	Number of Subareas Requiring an Engineered Barrier
Area 1	2
Area 2	2
Area 4	3
Area 15	4

h. Prior to commencement of any future excavation and/or construction in or near the sub-areas covered by an engineered barrier, a safety plan for that sub-area is required that is consistent with NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities; OSHA regulations, particularly in 29 CFR 1910 and 1926; state and local regulations, and other USEPA guidance as available. At a minimum, the plan should address possible worker exposure to contaminated soil which may be present in the sub-area. Any contaminated soil removed, or excavated from, or disturbed in the sub-areas where any engineered barrier is present must be handled in accordance with all applicable laws and regulations.

C. RCRA CLOSURE, RCRA POST-CLOSURE AND RCRA CORRECTIVE ACTION STATUS OF THE NORTH CELL SPRAY POND 1 AND THE SOUTH FLARE PIT

1. The North Cell Spray Pond 1 (NC-SP1) and South Flare Pit (SFP) were regulated hazardous waste management units in the RCRA permit issued to this facility on September 30, 1993. Since that time, BP has been providing post-closure care of these two units in accordance with the requirements of that permit. BP began pursuing a closure by removal demonstration for the NCSP-1 in 2002 and the SFP in 2005.

a. With regard to the NC-SP1, on January 7, 2008, Illinois EPA approved a closure by removal demonstration for the NC-SP1. Based upon this approval, no further action is necessary at NC-SP1 in regards to RCRA closure, RCRA post-closure or RCRA corrective action.

b. With regard to the SFP:

(1) Illinois EPA has determined that the facility has satisfied the groundwater requirements of Illinois EPA's May 29, 2007 (Log Nos. B-147-M-7 and M-13) and September 9, 2008 (Log No. PS08-030) letters. Based upon 35 Illinois Administrative Code (35 IAC) 742.925, the groundwater ingestion route for perched groundwater can be excluded at the SFP area. The facility must continue to address groundwater of the uppermost aquifer in accordance with Section V of this Renewal Permit.

(2) A closure by removal demonstration for the soils at the SFP, was approved by Illinois EPA on January 7, 2008 subject to the establishment of an ELUC meeting the requirements of 35 Ill. Admin. Code 742 which places certain restriction on future activities at the unit. The requirements regarding the restrictions that must be contained in the ELUC are set forth in Condition IV.C.2 below

2. The draft ELUC to be established for the SFP must place the following restrictions on the future activities of the subject property:

a. All groundwater, including the perched groundwater, under the Property shall not be used as a potable supply of water, and any contaminated groundwater and/or soil that is removed, excavated, or disturbed from the Property shall be handled in accordance with all applicable laws and regulations;

b. The Property shall not be used for Residential use. The Property shall be used solely and exclusively for "industrial/commercial property" use as it is defined in 35 Ill. Adm. Code 742;

c. Any excavation and subsurface construction work on the Property shall be conducted in accordance with a site health and safety plan designed to restrict direct worker exposure to impacted soils and impacted perched groundwater on the Property, and all the construction workers shall be equipped with appropriate personal protective equipment as required and specified by the site health and safety plan;

d. The soil within the Property shall remain in place, except where necessary to remove it for construction activities;

e. Soil excavated during construction/demolition/excavation activities within the Property shall be evaluated to determine if it is contaminated. This determination shall be made by a visual inspection and by subjecting the soils to field screening tests for volatile organic compounds ("VOCs") The soil evaluation and management procedures shall be as follows:

(i) Field Screening. Soil shall be considered "potentially contaminated" if: (1) there is a visual discoloring of the soil indicative of hydrocarbon product; or (2) a field screening test for VOCs detects the presence (i.e., PID readings >100 units) of VOCs in soil;

(ii) Laboratory Analysis. Soils exhibiting potential contamination based on visual discoloring or a field screening test for VOCs will must be sampled for benzene, toluene, ethylbenzene, and xylenes (BTEX) and polycyclic aromatic hydrocarbons (PAHs) laboratory analysis, or considered contaminated without analytical testing.

(iii) Determination of Non-Contaminated Soils. Soils will be considered non-contaminated if: (1) laboratory analytical data indicates constituents in soil are less than the Illinois EPA approved site specific industrial/commercial ROs developed for the Property; or (2) visual inspection or field screening indicates soils are below the threshold levels given in 11.e.i above.

(iv) Management of Non-Contaminated Soils. Soils that are considered not contaminated, as determined by field screening or laboratory results, may be reused as clean fill in other areas of the former BP Refinery Main Plant Facility. Soils may be transported off-site as clean fill if laboratory data indicates constituents are less than TACO residential standards.

(v) Management of Contaminated Soils. If soils are found to be contaminated, they shall be sent off-site for disposal in accordance with 35 Ill. Adm. Code, Subtitle G: Waste Disposal.

(vi) Documentation. All of these activities must be documented in the facility's operating records.

D. PARCELING AND REMOVAL OF LAND FROM THE DEFINITION OF "FACILITY' COVERED BY THIS PERMIT

1. This subsection sets forth the process by which the facility may be "parceled" as part of the corrective action process at this facility, either in a horizontal or vertical fashion. "Parceling," for purposes of this permit, shall mean the dividing up of a given property and all rights associated with it into various three-dimensional parcels with defined boundaries above, on and/or below the surface of the earth. The establishment of various parcels at the subject facility will aid in the implementation of corrective action and redevelopment of the facility.

   a. The boundaries of any parcels established in accordance with the process approved by this permit must be defined by a professional land surveyor licensed to practice in the State of Illinois and meet the requirements of all statutes and regulations applicable to such efforts.

   b. Each parcel eventually established in accordance with the process approved by this Permit must obtain an individual and unique Real Estate Tax Index/Parcel Index Number from Madison County.

   c. At a minimum, until corrective action is complete, BP must maintain ownership of the subsurface parcel, which consists of the subsurface beneath the current boundaries of the subject facility excluding the surface parcel and the agreed upon depth of land conveyed therewithin.

   d. If the soils and, as appropriate, perched groundwater within a given parcel have been adequately remediated, then that parcel can be removed from the defined facility covered by this permit using the procedures set forth in this subsection.

2. The eventual removal of a given parcel from the terms and conditions of the facility's RCRA permit (so that its ownership can be transferred to another entity) will require that: (1) the parcel first receive a No Further Action determination from Illinois EPA for the soils and, as appropriate, perched water within that parcel; and (2) the permit is modified so that the parcel in question is no longer a part of the facility covered by the permit.

a. At a minimum, as part of obtaining a No Further Action determination, an Environmental Land Use Control (ELUC) must be established which allows BP access to that parcel in the future for any groundwater monitoring or remediation efforts. It must be noted that the ELUC may also need to address certain other restrictions required to support Illinois EPA's No Further Action Determination.

b. To modify the definition of the facility covered by the permit, BP will be required to submit a request to modify the permit in accordance with 35 Ill. Admin. Code 703, Subpart G. Such a request would appear to be a Class 3 modification request. Thus, BP must submit the subject request in accordance with the procedures set forth in 35 Ill. Admin. Code 703.283 or it may request a determination by Illinois EPA that the request be viewed as a Class 1 or Class 2 modification request. If BP requests that the modification be classified as a Class 1 or Class 2 request, then the modification request must contain the necessary information to support the proposed classification.

3. The boundaries of any new parcel must first be approved by Illinois EPA before a new PIN is obtained for the parcel. It must be noted that Illinois EPA has already approved the boundaries of nineteen horizontal parcels within the facility. Any request for a new parcel must contain a legal description and plat survey for that parcel developed in accordance with Condition IV.D.1.a above.

4. Corrective action efforts within the various parcels must be carried out in accordance with plans and reports approved by Illinois EPA, including all plans and reports approved by Illinois EPA to date regarding corrective action at the subject facility.

5. Illinois EPA must be able to enforce any efforts necessary to complete corrective action and achieve approved remediation objectives at the subject facility. This can be achieved via Environmental Land Use Controls, ordinances and the facility's RCRA permit.

6. As property (or parcels) with new PINs are established, it may be necessary to re-file ELUCs which have already been filed with the Madison County Recorder.

a. Such an effort is necessary if the new parcel was created from a parcel for which an ELUC was already established.

b. In addition to re-filing the required ELUC on the new parcel, it will be necessary to file documentation on the original parcel indicating that the original ELUC no longer applies to that parcel (it may also be necessary to file a revised ELUC on the original parcel) identifying any restrictions that still apply to that parcel of land.

E. COST ESTIMATES/FINANCIAL ASSURANCE FOR CORRECTIVE ACTION

1. The Permittee shall prepare a cost estimate for the completion of any corrective action required under this permit, in order to provide financial assurance for completion of corrective action, as required under 35 IAC 724.201(b). Such a cost estimate must be based upon the cost of contamination investigations and assessments for the SWMU(s), and design, construction, operation, inspection, monitoring, and maintenance of the corrective measure(s) to meet the requirements of 35 IAC 724.201 and this permit. These estimates must be based upon third party costs. The revised cost estimate for corrective action must be submitted to the Agency annually by January 1.

2. The Permittee shall demonstrate continuous compliance with 35 IAC 724.201 by providing documentation of financial assurance using a mechanism specified in 35 IAC 724.243, in at least the amount of the cost estimate required under Condition IV.E.1 the words "completion of corrective action" shall be substituted for "closure and/or post-closure", as appropriate in the financial instrument specified in 35 IAC 724.251. The documentation shall be submitted to the Agency's DLPC within 60 days after the submittal of the initial or revised cost estimates required under Condition IV.E.1. The Agency's DLPC may accept financial assurance for completion of corrective action in combination with another financial mechanism that is acceptable under 35 IAC 724.246 at its discretion.

3. It must be noted that cost estimates and financial assurance must be provided for the operation of the groundwater remediation system required by Section V of this permit as such a system is necessary to meet the requirements of 35 Ill. Admin. Code 724.201.

4. All cost estimates prepared under the requirements of Conditions IV..E.1 through IV.E.3 must be submitted as a Class 1* permit modification request in accordance with 35 Ill. Adm. Code 703.281.

F. REQUIREMENTS FOR ADDRESSING NEWLY- IDENTIFIED SWMU(s)

1. The Permittee shall notify the Illinois EPA's DLPC in writing of any newly-identified SWMU(s) discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means, no later than thirty (30) calendar days after discovery. The notification shall provide the following information, as available:

   a. The location of the newly-identified SWMU in relation to other SWMUs on a scaled map or drawing;

   b. The type and past and present function of the unit;

   c. The general dimensions, capacities, and structural description of the unit (available drawings and specifications provided);

   d. The period during which the unit was operated;

   e. The specifics on all materials, including but not limited to, wastes and hazardous constituents, that have been or are being managed at the SWMU, to the extent available; and

   f. The results of any relevant available sampling and analysis which may aid in determining whether releases of hazardous wastes or hazardous constituents have occurred or are occurring from the unit.

2. If the submitted information demonstrates a potential for a release of hazardous waste or hazardous waste constituents from the newly identified SWMU, the Illinois EPA's DLPC may request in writing, that the Permittee prepare a Solid Waste Management Unit (SWMU) Assessment Plan and a proposed schedule of implementation and completion of the Plan for any additional SWMU(s) discovered subsequent to the issuance of this Permit. This SWMU Assessment plan must also propose investigations, including field investigations if necessary, to determine the release potential to specific environmental media for the newly-identified SWMU. The SWMU Assessment Plan must demonstrate that the sampling and analysis program, if applicable, is capable of yielding representative samples and must include parameters sufficient to identify migration of hazardous waste and hazardous constituents from the newly-discovered SWMU(s) to the environment.

3. Within 90 calendar days after receipt of the Illinois EPA's DLPC request for a SWMU Assessment Plan, the Permittee shall submit a SWMU Assessment Plan.

4. After the Permittee submits the SWMU Assessment Plan, the Illinois EPA's DLPC shall either approve, approve with conditions or disapprove the Plan in writing. If the plan is approved, the Permittee shall begin to implement the Plan within forty-five (45) calendar days of receiving such written notification. If the Plan is disapproved, the Illinois EPA's DLPC shall notify the Permittee in writing of the Plan's deficiencies and specify a due date for submittal of a revised plan.

5. The Permittee shall submit a report documenting the results of the approved SWMU Assessment Plan to the Illinois EPA's DLPC in accordance with the schedule in the approved SWMU Assessment Plan. The SWMU Assessment Report shall describe all results obtained from the implementation of the approved SWMU Assessment Plan.

6. The Permittee must implement a Corrective Measures Program, as necessary, to properly address any contamination encountered during the assessment. Guidance regarding the implementation of this program will be provided at the time Illinois EPA notifies the Permittee of the need for such a program.

G. FUTURE RELEASES FROM SWMUs

There exists a potential that a release may occur in the future from SWMUs identified in the RFA which did not require any corrective action at the time that the RFA or RFI was completed. If the Permittee discovers that a release has occurred from such a SWMU in the future, then the Illinois EPA must be notified of this release within thirty (30) days after its discovery following the procedures set forth in Condition IV.F.1 above. Additional investigation and, as necessary, corrective measures efforts at this SWMU must be carried out in accordance with the procedure set forth in Subsection E above. The results of all corrective action efforts required by this condition must meet the requirements of 35 Ill. Adm. Code 724.201.

H. INTERIM MEASURES/STABILIZATION

1. At any time during the corrective action process, the Permittee may initiate interim measures for the purpose of preventing continuing releases and/or

mitigating the results of releases and/or mitigating the migration of hazardous wastes or hazardous constituents. It shall not be necessary to conduct all phases of a RCRA Facility Investigation (RFI) or a Corrective Measures Study (CMS) prior to implementing an interim measure if the Illinois EPA's DLPC and the Permittee agree that a problem can be corrected, or a release cleaned up, without additional study and/or without a formal corrective measures study.

a. Prior to implementing any interim measures, the Permittee must submit detailed information regarding the proposed interim measure to the Illinois EPA's DLPC for approval. This information shall include, at a minimum:

   (1) Objectives of the interim measures: how the measure is mitigating a potential threat to human health and the environment and/or is consistent with and integrated into any long-term solution at the facility;

   (2) Design, construction, and maintenance requirements;

   (3) Schedules for design and construction; and

   (4) Schedules for progress reports.

b. If the Illinois EPA's DLPC determines that a release cannot be addressed without additional study and/or a formal CMS, then the Illinois EPA's DLPC will notify the Permittee that these must be performed. Any proposal made under this provision or any other activity resulting from such proposal, including the invocation of dispute resolution, shall not affect the schedule for implementation of the other corrective action efforts being carried out at the facility or of any other portion of the permit.

c. If the Illinois EPA determines that interim measures are necessary to protect human health or the environment, the Permittee will be notified by way of a permit modification.

2. Consistent with the annual reporting requirements of this permit, the Permittee shall submit a report assessing the effectiveness of any interim measures being carried out in accordance with this permit. Based on a review of this report, the Illinois EPA reserves the right to require additional interim measures be carried out if it is determined that the interim measure is unable to protect human health

and the environment. This annual report should at a minimum contain the following information regarding each system which comprises the interim measure:

a. A discussion of each system's operation during the year. This discussion should address: (1) actual daily, weekly and monthly flow rates through each system; (2) any periods when the systems were not operating; and (3) deviations from the design operating procedures for the system (such as problems with drawing an adequate vacuum, downtime due to equipment failure, etc.);

b. Results of all monitoring efforts carried out during the year;

c. A discussion of the effectiveness of the system supported as appropriate with data and calculations;

d. Recommended changes, if any, which should be made to the system to improve its effectiveness.

3. The interim measure approved for a SWMU may not be sufficient to meet the final requirements for corrective action for remediation for the unit. The adequacy of the interim measure will be addressed upon Illinois EPA review and approval of the RFI Reports and the Corrective Measures Plan, as required by this permit. As such, the Permittee may be required to expand this interim measure as necessary to address existing or additional contamination detected through RFI investigations.

4. The Illinois EPA reserves the right to require revision and modification of the interim measures implemented by the facility should it be determined by the Illinois EPA through information obtained through facility monitoring that the interim measures approved by this portion of the permit are ineffective in protecting human health and the environment.

I. REPORTING REQUIREMENTS

1. A report must be submitted summarizing the corrective action efforts completed during each quarter of the calendar year. This report must also contain a general description of the corrective action efforts to be completed during the next quarter of the calendar year.

a. The reports should be submitted in accordance with the following schedule:

Reporting Period	Report to be Submitted by the Following
January-March	April 15
April-June	July 15
July-September	October 15
October-December	January 15

b. Each report must contain:

(1) a summary of activities completed at each parcel during the quarter, including information regarding the amount of free product/groundwater/leachate removed on a weekly basis from various units during the quarter;

(2) a discussion of any problems encountered while conducting corrective action at each parcel during the quarter;

(3) A summary of the activities anticipated to be carried out during the next quarter.

2. A report must be submitted to Illinois EPA by March 1 of each year which summarizes corrective action program activities completed at the facility during the previous calendar year (i.e., the previous January 1 to December 31). This report must contain a compilation/summary of the information in the quarterly reports for the year, what was completed during the year, and what must still be done in the next year and in the following years.

3. Final reports must be submitted to Illinois EPA for review and approval when corrective action is complete for a given parcel. Such reports must be certified by an independent licensed professional engineer and a person of authority from the Permittee. This certification must meet the requirements of 35 Ill. Adm. Code 702.126. These reports must contain be detailed in nature and contain sufficient information which (1) describes in detail all investigation/remediation efforts carried out in the parcel; and (2) the efforts were carried out in accordance with the approved plan and this permit.

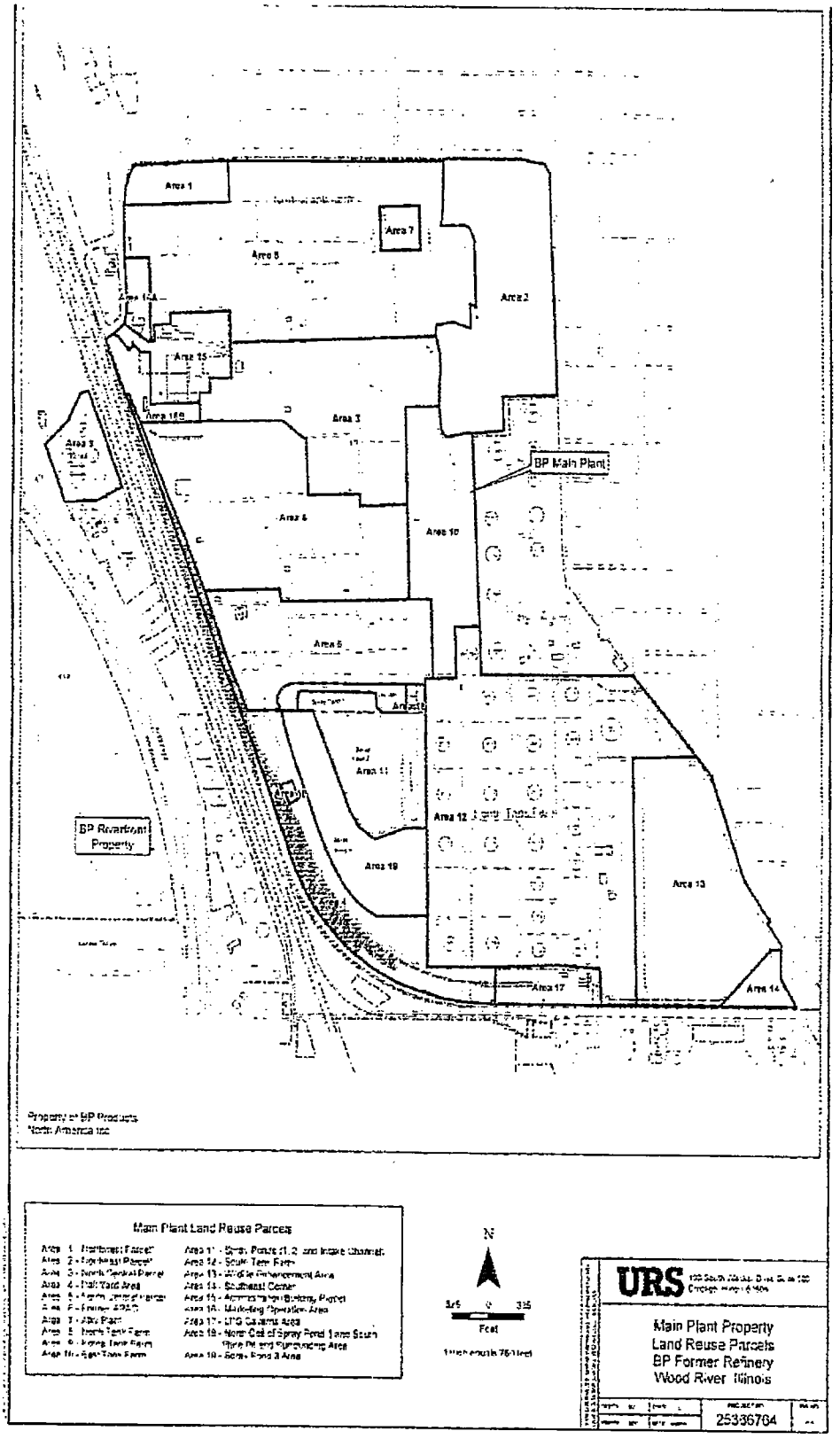
RCRA Permit Log No. B-147R-M-5

BP/Main Plant

Section IV: Corrective Action

Attachment IV-A

Facility Layout Map


Area 1
Area 7
Area 8
Area 2
Area 15
Area 3
BP Main Plant
Area 6
Area 10
Area 5
Area 11
Area 12
Area 18
Area 13
Area 17
Area 14
BP Riverfront Property
Property of BP Products North America Inc
Main Plant Land Reuse Parcels
N
Feet
URS
Main Plant Property
Land Reuse Parcels
BP Former Refinery
Wood River Illinois
25336764

RCRA Permit Log No. B-147R-M-5

BP/Main Plant

Section IV: Corrective Action

Attachment IV-B

Chronologic Summary of Corrective Action Submittals
(organized by IEPA Log No.)

Summary of Corrective Action Submittals
BP/Main Plant
Log No. B-147-M-5
April 2012

The table below summarizes the plans/reports/documents submitted to Illinois EPA regarding the corrective action efforts at the BP/Main Plant facility in Wood River, Illinois.

Note:

CCR = Current Conditions Report
GMZ = Groundwater Management Zone
NC-SP1 = North Cell of Spray Pond 1
RFI = RCRA Facility Investigation
SFP = South Flare Pit
SSI = Statistically Significant Increase

Log No.	Submittal	Status
B-147	RCRA Permit issued to facility, Section IV contains corrective action requirements.	Approved September 30, 1993
B-147	Proposed GMZ	Approved April 6, 1994
CA-1	RFI Phase I workplan	Approved September 7, 1994
CA-2	RFI Phase I report	Approved June 5, 2001
CA-3	Supplemental RFI Phase I report	Approved June 5, 2001
CA-4	Conceptual RFI Phase II/III workplan	Superseded by CA-7
CA-5	Investigation Workplan for Areas 1 and 2	Approved August 15, 2000
CA-6	Engineered Barrier Specification Report	Superseded by CA-9
CA-7	RFI Phase II/III workplan	Approved February 5, 2002
CA-8	Human Exposures Controlled (CA725) Demonstration	Superseded by CA-12
CA-9	Engineered Barrier Specification Report	Approved August 3, 2001

Log No.	Submittal	Status
CA-10	"Comfort Letter" request for soils in Area 1	Approved July 9, 2001
CA-11	No Further Action Determination for Area 1	Approved December 5, 2001
CA-12	Human Exposures Controlled (CA725) Demonstration	Approved October 9, 2001
CA-13	Request to incorporate two releases in Area 12 into corrective action program	Superseded by CA-16
CA-14	NFA for Area 2	Approved August 13, 2002
CA-15	Groundwater action Releases Under Control (CA750) Demonstration	Approved March 18, 2002
CA-16	Request to Incorporate two releases in Area 12 into corrective action program	Approved September 13, 2002
CA-17	CCR/Characterization Workplan for Area 4	Approved January 10, 2002
CA-18	GMZ Re-Evaluation	Approved March 13, 2002
CA-19	CCR/Characterization Workplan for Area 19	Approved March 20, 2002 (soils); April 9, 2002 (groundwater)
CA-20	CCR/Characterization Workplan for Area 15	Approved March 20, 2002 (soils); April 9, 2002 (groundwater)
CA-21	City of Wood River Ordinance and MOU to restrict groundwater use	Approved March 28, 2002
CA-22	CCR/Characterization workplan for Area 9	Approved September 5, 2002
CA-23	Modifications to Approved Phase II/III RFI workplan (CA-7)	Approved June 21, 2002

Log No.	Submittal	Status
CA-24	CCR/Characterization Workplan for Area 6	Approved September 5, 2002
CA-25	CCR/Characterization workplan for Area 5	Approved September 27, 2002
CA-26	Revised CCR/Characterization workplan for Area 15	Approved September 27, 2002
CA-27	CCR/Characterization Workplan for Area 3	Approved September 27, 2002
CA-28	Comments on IEPA's January 10, 2002 letter regarding Area 4 (CA-17)	Approved September 5, 2002
CA-29	Draft ELUC for Area 1	Approved January 10, 2003
CA-30	Investigation Report for Area 4	Approved August 22, 2003
CA-31	Investigation Report for Area 15	Approved November 19, 2003
CA-32	Revised Corrective Action Schedule	Approved February 7, 2003
CA-33	CCR/Characterization Workplan for Area 7/8	Approved August 7, 2003
CA-34	Revised Corrective Action Schedule	Superseded by CA-45
CA-35	Report on soil removal activities in Area 2	Approved August 11, 2003
CA-36	Area 15 Report-Addendum 1	Approved November 19, 2003
CA-37	Area 15 Report-Addendum 2	Approved November 19, 2003
CA-38	Extension request for submitting Area 12 CCR/Workplan	Approved December 30, 2004
CA-40	Draft ELUC for Area 2	Approved January 29, 2003
CA-41	CCR/Characterization Workplan for Area 10	Approved June 4, 2003
CA-42	Soil Removal Activities Report at Area 15	Approved June 16, 2004

Log No.	Submittal	Status
CA-43	Draft ELUC for Area 15	Approved August 23, 2004
CA-44	Soil Removal Activities Report at Area 4	Approved September 15, 2004
CA-45	Revised Corrective Action Schedule	Approved December 30, 2004
CA-46	Recorded ELUC for Area 15	Approved September 29, 2005
CA-47	Draft ELUC for Area 4	Approved June 1, 2005
CA-48	Recorded ELUC for Area 1	Approved March 25, 2005
CA-49	Recorded ELUC for Area 2	Approved March 29, 2005
CA-50	Updated RFI Phase II/III Project Plan Schedule	Approved September 21, 2005
CA-51	2004-05 CCR Phytoremediation/Landfarming Remedial Measures at Tank 293	Approved December 29, 2005
CA-52	Recorded ELUC for Area 4	Approved September 29, 2005
CA-53	Submittal regarding facility's GMZ	Approved January 24, 2006
CA-54	Summary of Phytoremediation/Landfarming Remedial Measures at Tank 293	Approved August 11, 2008
CA-55	Reevaluation of GMZ	Approved January 21, 2009
CA-56	Updated RFI Phase II/III Project Plan Schedule	Received October 4, 2006
CA-57	Investigation Report for Area 3	Soil comments e-mailed by IEPA February 25, 2008
CA-58	Investigation Report for Area 5	Disapproved June 22, 2007
CA-59	Investigation Report for Area 6	Received December 26, 2006; July 13, 2007; and February 26, 2008. IEPA e-mailed comments

Log No.	Submittal	Status
		on July 11, 2009.
CA-60	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are from alternate source	Approved January 6, 2009
CA-61	Underground Piping Investigation Work Plan	Approved April 4, 2007 (eventually superseded by CA-90)
CA-62	Re-evaluation of GMZ	Approved January 21, 2009
CA-63	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are from alternate source.	Approved January 6, 2009
CA-64	Underground Piping Work Plan for 7 and 8 Areas	Superseded by CA- 90
CA-65	Investigation Report for Area 19	Approved December 6, 2007
CA-66	Draft White Paper – Property Transfer Process	Approved March 31, 2009
CA-67	Demonstration that detection monitoring SS1s at NC-SP1 and SFP are from alternate source.	Approved January 6, 2009
CA-68	Information regarding two releases in Area 8	Approved August 13, 2007
CA-69	Addendum to Area 5 Report	On January 30, 2009, IEPA required additional investigation be conducted in Area 5.
CA-70	Supplemental Report for Soil Sampling of NC-SP1 and SFP	Approved January 7, 2008 (NFA determination made for NC-SP1; additional work required for SFP).
CA-71	Area 5 Land Reuse Investigation Report	On January 30, 2009, IEPA sent letter requiring additional investigation in Area 5.

Log No.	Submittal	Status
CA-72	Corrective Action Excavation in Area 5	On January 30, 2009, IEPA sent letter requiring additional investigation in Area 5.
CA-73	Area 5 Analytical Reports for Perched Groundwater	On January 30, 2009, IEPA sent letter requiring additional investigation in Area 5.
CA-74	2007 Annual Current Conditions Report – Phytoremediation at Tank 293	Approved August 11, 2008
CA-75	Area 5 Land Reuse Inventory Report and closure Plan, Revision 1	On January 30, 2009, IEPA sent letter requiring additional investigation in Area 5.
CA- 76	Area 10 Land Reuse Investigation and Closure Plan	Received March 22, 2008. IEPA emailed comments June 16, 2009.
CA-77	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are from alternate source	Approved January 6, 2009
CA-78	Comments on IEPA's December 6, 2007 letter regarding the Area 19 Land Reuse Investigation Report and Closure Plan (CA-65)	Approved April 13, 2009
CA-79	Area 9 Land Reuse Report	Received May 12, 2008. IEPA e-mailed comments June 1, 2009 and October 22, 2009.
CA-80	Site-Wide Class II GW Determination	Received May 12, 2008
CA-81	Area 7/8 Land Reuse Investigation Report and Closure Plan	Received June 3, 2008
CA-82	2007 Annual Current Conditions Report, Phytoremediation/Landfarming at Tank 293	Approved August 11, 2008

Log No.	Submittal	Status
CA-83	Additional information regarding two releases in Area 8 (see CA-68)	Received June 4, 2008
CA-84	Area 16 CCR/Characterization Workplan	Approved May 5, 2009
CA-85	Demonstration that detection monitoring SS1s at NC-SP1 and SFP are from alternate source.	Approved January 6, 2009
CA-86	Area 17 CCR/Characterization Workplan	Approved May 5, 2009
CA-87	Underground Pipeline Work Plan	Superseded by CA-90
CA-88	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are due to alternate source.	Approved January 6, 2009
CA-89	Additional information regarding Area 5 Investigation Report	On January 30, 2009, IEPA sent letter requiring additional investigation in Area 5.
CA-90	Underground Product Pipeline Investigation Workplan – Revision 1	Approved April 13, 2009
CA-91	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are due to alternate source.	Approved as of the effective date of renewal permit.
CA-92	Response to Comments, Area 6 Land Reuse Investigation Report	On February 24, 2010, IEPA sent letter requiring additional investigation in Area 6.
CA-93	CCR for Phytoremediation/Landfarming	Approved November 20, 2009
CA-94	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are due to alternate source.	Approved as of the effective date of this renewal permit.
CA-95	Requested changes to IEPA's April 13, 2009 approval of the Underground Product Pipeline Investigation Workplan	Approved July 6, 2009

Log No.	Submittal	Status
CA-96	Letter Regarding Vertical Parceling	Approved March 3, 2010
CA-97	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are due to alternate source.	Approved as of the effective date of this renewal permit.
CA-98	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are due to alternate source.	Approved as of the effective date of this renewal permit.
CA-99	Proposal to evaluate: (1) the hydrocarbon recovery system at facility; and (2) arsenic impacts in Well RG36	Approved February 24, 2010
CA-100	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are due to alternate source.	Approved as of the effective date of this renewal permit.
CA-101	Shallow investigation of South Flare Pit.	Approved as of the effective date of this renewal permit.
CA-102	Current Condition Report for phytoremediation landforming at Tank 293.	Approved July 12, 2011
CA-103	Demonstration that detection monitoring statistical increases are not due to significant changes in groundwater quality.	Approved as of the effective date of this permit.
CA-104	Response to request for improvement to hydrocarbon recovery system.	Approved August 31, 2011
CA-105	Demonstration that detection monitoring statistical increases are not due to significant changes in groundwater quality.	Approved as of the effective date of this permit.
CA-106	Response to February 24, 2010 letter requiring improvements to hydrocarbon recovery system.	Approved August 31, 2011.
CA-107	Site-wide Geology Report and cone penetrometer logs.	Received April 16, 2010.

Log No.	Submittal	Status
CA-108	Demonstration Regarding SSIs for NCSP1/SFP (2Q10)	Approved August 31, 2011
CA-109	SSI Demonstration for SFP (3Q10)	Approved August 31, 2011
B-147R	Renewed RCRA Permit	Approved March 4, 2011
R-CA-1	2010 Report for Phytoremediation/Landfarming at Tank 293	Approved July 12, 2011
R-CA-2	Submittal Regarding GMZ Boundary Wells	Approved August 31, 2011
R-CA-3	Area 11 CCR/Characterization Workplan	Approved January 24, 2012
R-CA-4	Area 10 Comprehensive Report	Received May 5, 2011
R-CA-5	Information Regarding the Arsenic Levels at Monitoring Wells RG36	Received May 6, 2011
R-CA-6	Draft ELUC for Donation Parcel in Area 2	Approved November 3, 2011 (see also B-147R-CA-12)
R-CA-7	Draft ELUC for Area 2, excluding Donation Parcel	Superseded by B-147R-CA-11
R-CA-8	Additional Information Regarding the Arsenic Levels at Monitoring Well RG36	Received June 14, 2011
R-CA-9	Draft ELUC for South Flare Pit	Received July 8, 2011
R-CA-10	Area 13 CCR/Characterization Work Plan	Received August 11, 2011
R-CA-11	Draft ELUC for Area 2, Excluding Donation Parcel	Approved November 3, 2011
R-CA-12	Draft ELUC for Donation Parcel in Area 2	Approved November 3, 2011
R-CA-13	Area 14 CCR/Characterization Workplan	Received October 11, 2011

Log No.	Submittal	Status
R-CA-14	Response to August 31, 2011 IEPA letter (see R-CA-2)—improvements to HRS and GMZ	Received November 15, 2011
R-CA-15	Area 9 Comprehensive Report	Received December 15, 2011
R-CA-16	Recorded ELUC for Donation Parcel in Area 2	Approved March 13, 2012
R-CA-17	Recorded ELUC for Area 2, excluding Donation Parcel	Approved February 27, 2012
R-CA-18	Revised Draft ELUC for South Flare Pit	Received January 26, 2012
R-CA-19	Area 5 Comprehensive Report	Received February 2, 2012
R-CA-20	2011 Report for Phytoremediation-Landfarming Project at Tank 293	Received March 2, 2012
R-CA-21	Area 6 Report	Received March 16, 2012
R-CA-22	GMZ Re-Evaluation	Received March 14, 2012

SFN:JKM:1191150001-RCRA-B-147R-M-5

SECTION V: GROUNDWATER CORRECTIVE ACTION PROGRAM

A. SUMMARY

Hazardous constituents released from the Main Plant facility have been detected in the groundwater at and beyond the historical point of compliance at concentrations which exceed the Groundwater Protection Standards, as well as, groundwater quality standards established by 35 Ill. Adm. Code 724.192. Therefore, a Corrective Action Program meeting the requirements of 35 Ill. Adm. Code 724.200 must be implemented at the Main Plant facility.

The Corrective Action Program required by this permit includes:

1. Control of the horizontal and vertical flow of the entire vertical column of groundwater in the uppermost aquifer such that groundwater flow is towards the interior of the Main Plant facility. This control of groundwater flow will be accomplished by withdrawing sufficient quantities of groundwater from the uppermost aquifer. Such flow control is necessary as a corrective measure to prevent further contaminant migration of on-site releases of product or waste, beyond the boundaries of the Main Plant facility and is the basis for the establishment of a Groundwater Management Zone (GMZ).

2. Verification that the flow of groundwater is adequately controlled as required by Condition V.A.1 above.

3. Monitoring the quality and movement of the groundwater in the uppermost aquifer beneath the Main Plant facility to determine the effectiveness of the Corrective Action Program, as well as, verify compliance with the GMZ.

4. Removing refinery product from above the water table.

B. DEFINITIONS

As used herein, the words or phrases set forth below have the following definitions:

1. "Uppermost Aquifer" refers to the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically connected with this aquifer in the vicinity of the facility. The uppermost aquifer in the

vicinity of the Main Plant facility has been identified as the unconsolidated aquifer consisting of sand and gravel.

2. "GMZ" refers to the three (3) dimensional region containing groundwater being managed to mitigate impairment caused by the release of contaminants from a site.

3. "Point of Compliance" refers to the vertical surface located at the hydraulically downgradient limits of the waste management area extending down into the uppermost aquifer underlying the regulated units.

4. "Ft – bgs" refers to the number of feet below the ground surface.

5. "Ft-MSL" refers to the number of feet below the ground surface referenced to mean sea level.

6. "Detected" shall mean a concentration equal to or above the PQL listed in USEPA's SW-846 (Third Edition) or as approved by the Illinois EPA for the applicable analytical methods specified in the approved Sampling and Analysis Procedures, which are incorporated by reference in Condition V.H of the Permit.

7. "Stick-up" refers to the height of the reference survey datum. This point is determined with $\pm$ 0.01 foot in relation to mean sea level, which in turn is established by reference to an established National Geodetic Vertical Datum.

8. The compliance period is the number of years equal to the active life of the waste management area, including any waste management activity prior to permitting, and the closure period.

C. IMPLEMENTATION

1. The Permittee shall implement the Corrective Action Program established in this Permit upon the effective date of this Permit. On that date, the corrective action and groundwater monitoring requirements set forth in this Permit shall supersede those previously established.

2. The Permittee shall carry out the corrective actions specified in this Permit on the groundwater beneath the Main Plant facility. The uppermost aquifer at this facility is a sand and gravel aquifer located approximately 30 feet deep below the ground surface and extending to a depth of about 101 to 113 feet below ground surface to

the top of the bedrock surface. This aquifer is commonly referred to as the "American Bottoms."

3. For the purposes of this Permit and in accordance with 35 Ill. Adm. Code Part 620 regulations, the sand and gravel aquifer has been designated Class I: Potable Resource Groundwater. The analytical results obtained from these groundwater monitoring wells shall be compared to the appropriate Class I concentration limits that comprise the groundwater protection standard found in Condition V.E.1 or to established background values as appropriate.

4. At this time, the establishment of a point of compliance will be postponed until such time that the monitoring wells at the facility have attained the applicable concentration limits that comprise the groundwater protection standard found in Condition V.E.1and the GMZ expires. At that time, facility must submit a proposal for the establishment of a point of compliance which satisfies the regulatory requirements found in 35 Ill. Adm. Code 724, Subpart F and reflects the current conditions at the facility.

D. WELL LOCATIONS AND CONSTRUCTION

1. The Permittee shall maintain the groundwater monitoring wells identified in the table below to allow for the collection of groundwater samples from the uppermost aquifer. The location of these wells is specified in Figure 3-1 of Volume 3 of the approved Permit Renewal Application.

IEPA Well No.	Facility Well No.	Well Depth (ft.)	Well Depth Elevation (ft. MSL)	Well Screen Interval (ft. MSL)
GMZ Boundary Wells				
G04R	B-4R	59.5	382.63	402.63-382.63
G045	G-5	50.0	392.60	412.60-392.60
G055	G-15	55.0	389.90	409.90-389.90
G32R	H32R	44.1	385.08	405.38-385.38
RG36	H36R	58.1	387.17	404.20-389.50
G062	G-22	45.0	388.00	408.00-388.00
R063	G-23R	46.0	385.78	405.78-385.78
G067	G-27	49.0	386.80	406.80-386.80
G068	G-28	50.0	392.60	414.60-392.60

IEPA Well No.	Facility Well No.	Well Depth (ft.)	Well Depth Elevation (ft. MSL)	Well Screen Interval (ft. MSL)
GMZ Boundary Wells				
G69R	G-29R	60.0	385.87	405.87-385.87
G073	G-33	44.0	387.23	407.23-387.23
G74L	G-34	60.0	386.92	406.92-386.92
G75L	G-35	60.0	386.63	406.63-386.63
G76L	G-36	60.0	385.79	405.79-385.79
G084	G32R	45.0	389.03	409.03-389.03
G085	G-26R	53.6	389.24	409.24-389.24
G111[Q]	SWMU12-MW02	38.2	392.91	403.08-393.08
G112[Q]	G-H1	43.2	388.98	408.98-388.98
G005[Q]	B-5D	44.0	385.66	405.66-385.66
G006[Q]	B-6	44.0	383.87	403.87-383.87
G008[Q]	B-8D	50.0	377.94	397.94-377.94
G021[Q]	C-11	49.7	382.06	417.25-382.25
G023[Q]	C-13	49.5	381.63	416.63-381.63
G059[Q]	G-19	45.0	384.30	404.30-384.30
G061[Q]	G-21	40.0	385.81	405.81-385.81
G078[Q]	G-38	39.0	386.35	406.35-386.35
G079[Q]	G-39	39.0	383.97	403.97-383.97
G35[Q]	H-35	60.0	373.82	393.82-373.82
G37[Q]	H-37	46.0	386.18	401.18-386.18
G5B	G-5B	75.2	367.73	377.73-367.73
G91[+Q]	M-1D	39.7	387.96	+ -387.96
G92[+Q]	M-2D	40.4	385.95	+ -385.95
G93L[+Q]	M-3D	40.8	386.01	+ -386.01
G302	RP-2D	49.0	383.63	393.63-383.63
G303	RP-3D	44.0	388.66	398.66-388.66
H31B[Q]	H-31B	74.8.	357.32	367.32-357.32
Observation Monitoring Wells				
G002	G-01R	38.2	390.40	410.00-390.40

IEPA Well No.	Facility Well No.	Well Depth (ft.)	Well Depth Elevation (ft. MSL)	Well Screen Interval (ft. MSL)
Observation Monitoring Wells				
G009	B-9	49.0	382.63	407.63-382.63
G10L	H-20	58.5	371.82	396.82-376.82
R11L	H-21R	57.0	371.85	391.85-371.85
G011	C-1	49.5	380.48	415.48-380.48
G013	C-3	49.5	380.58	415.58-380.58
G13L	H-23	51.5	380.13	408.63-388.63
G14L	H-24	57.0	372.91	397.91-377.91
G16L	H-26A	55.0	378.31	408.31-378.31
G016	C-6	49.5	381.03	416.03-381.03
G017	C-7	49.5	382.13	417.13-382.13
G18[+]	H-28	53.0	392.31	+ -392.31
G19	H-29	55.0	378.81	408.81-378.81
G020	C-10	49.5	381.28	416.28-381.28
G22R	C-12R	54.7	378.25	398.25-378.25
G30R	H-30R	42.8	388.21	408.66-388.66
G31R	H-31R	42.2	390.2	410.40-390.40
G33	H-33	44.4	386.90	407.29-387.29
G34	H-34	60.0	371.69	391.69-371.69
G36R	C-26R	34.1	392.85	402.85-392.85
G39[+]	H-39	42.1	385.39	+ -385.39
G042	G-2D	43.0	391.67	411.67-391.67
G046	G-6	50.0	391.40	411.40-391.40
G047	G-7	47.9	381.70	402.60-382.60
G048	G-8	48.0	381.50	401.50-381.50
G049	G-9	47.0	382.20	402.20-382.20
G050	G-10	44.0	386.50	406.50-386.50
G056	G-16	30.0	395.70	415.70-395.70
G057	G-17	35.0	391.90	411.90-391.90
G058	G18	36.0	391.20	411.20-391.20
G060	G-20	39.0	388.90	408.90-388.90
G064	G-24	49.0	387.90	407.90-387.90
G065	G-25	55.0	389.50	409.50-389.50
G71L	G-31	58.7	387.18	407.18-387.18
G77L	G-37	55.0	387.69	407.69-387.69
G082	G-42	39.0	388.96	408.96-388.96

IEPA Well No.	Facility Well No.	Well Depth (ft.)	Well Depth Elevation (ft. MSL)	Well Screen Interval (ft. MSL)
Observation Monitoring Wells				
G083	G-4DR	44.9	392.99	411.83-392.99
G83L	H-3	52.5	375.13	400.13-380.13
G84L	H-4	59.0	373.93	398.93-378.93
G85L	H-5	64.0	376.31	414.31-381.31
G86L	H-6	64.3	376.20	401.20-381.20
G87L	H-7	51.5	376.63	401.63-381.63
G89L	H-9	53.5	376.43	401.43-381.43
G91L	H-11	63.5	373.01	398.01-378.01
G92L	H-12	69.0	374.28	411.28-379.28
G96L	H-16	58.5	372.90	397.90-377.90
G97L	H-17	58.0	377.12	402.12-382.12
G98L	H-18	52.5	378.23	403.23-383.23
G99L	H-19	53.5	376.67	402.17-382.17
G301	RP-1	50.1	377.28	387.28-377.28
G304	RP-4D	49.0	382.34	396.34-386.34
G305	RP-5	49.0	380.42	390.42-380.42
G306	RP-6	49.0	381.10	391.10-381.10
G307	RP-7D	49.0	383.42	393.42-383.42
G417	B-17	51.0	380.44	400.44-380.44

Notes:
+ = Well construction information is incomplete
Q = Sample quarterly for a total of one (1) year.

2. The Permittee shall maintain the Gradient Control Wells (Cone of Depression (COD) Wells) identified in the table below to allow for the withdrawal of contaminated groundwater, as well as, the measurement of water levels to verify the flow of groundwater is adequately controlled as required by Condition V.A.1 above. The Permittee shall maintain the Hydrocarbon Recovery Wells identified in the table below to allow for the withdrawal of hydrocarbon product as required by Condition V.A.4 above.

IEPA Well No.	Facility Well No.	Well Depth (ft.)	Well Depth Elevation (ft. MSL)	Well Screen Interval (ft. MSL)
Gradient Control Wells				
G662	PW-62	101.0	330.28	365.28-330.28
G664	PW-64	118.0	309.40	344.40-309.40
G665	PW-65	120.0	313.20	348.20-313.20
G666	PW-66	124.0	310.15	345.15-310.15
Hydrocarbon Recovery Wells				
G601	RC-1	56.0	373.40	393.40-373.40
G602	RC-2	55.0	374.96	394.96-374.96
G603	RC-3	51.0	379.39	399.39-379.39
G604	RC-4	49.5	382.18	402.18-382.18
G605	RC-5	49.8	380.56	401.27-381.27
G606	RC-6	55.0	373.27	408.27-378.27
G607	RC-7	58.5	368.97	403.97-373.97
G608	RC-8	61.0	364.90	399.90-369.90
G609	RC-9	64.0	367.40	402.40-372.40
G610	RC-10	69.0	366.61	401.61-371.61
G611	RC-11	70.0	369.96	404.96-374.96
G612	RC-12	73.0	368.21	395.21-373.21
G613	RC-13	60.0	371.25	406.25-376.25
G614	RC-14	59.5	371.60	406.60-376.60
G615	RC-15	58.4	371.77	407.15-377.15
G616	RC-16	65.0	367.61	402.61-372.61
G617	RC-17	58.0	370.41	392.41-375.41
G618	RC-18	57.5	371.76	411.76-376.76
G619	RC-19	58.0	368.92	408.92-373.92
G620	RC-20	85.4	344.72	406.49-349.72
G629	RC-H-29	57.6	379.88	410.48-379.88

Notes:
+ = Well construction information is incomplete

3. Construction of each monitor well/piezometer must be in accordance with the diagram contained in Attachment B to this Permit, unless otherwise approved in

writing by the Illinois EPA. All new monitoring wells/piezometers to be installed must be continuously sampled and logged on Illinois EPA boring logs as provided in Attachment B unless otherwise approved by the Illinois EPA. A monitoring well completion form is provided in Attachment B.

4. The Permittee shall notify the Illinois EPA within thirty (30) days in writing if any of the wells identified in Conditions V.D.1 and V.D.2 are damaged or the structural integrity has been compromised causing the well not to serve its function or to act as a contaminant pathway. A proposal for the replacement of the subject well shall accompany this notification. The well shall not be plugged until the new well is on-line and monitoring data has been obtained and verified, unless the well is extremely damaged or would create a potential route for groundwater contamination. Prior to replacing the subject well, the Permittee shall obtain written approval from the Illinois EPA regarding the proposed installation procedures and construction.

5. Should any well become consistently dry or unserviceable, a replacement well shall be provided within ten (10) feet of the existing well. This well shall monitor the same zone as the existing well and be constructed in accordance with the current Illinois EPA groundwater monitor well construction standards at the time that the wells are replaced. A replacement well which is more than ten (10) feet from the existing well or which does not monitor the same geologic zone must be approved by the Illinois EPA and designated as a new well. The Illinois EPA well plugging and abandonment procedures are provided in Attachment B.

6. The Permittee shall submit boring logs, construction diagrams and datasheets from installation and development of a new or replacement well to the Illinois EPA at the address below within thirty (30) days of the date that installation of the well is completed. In addition, the Permittee shall submit certification that plugging and abandonment of a well was carried out in accordance with the approved procedures to the Illinois EPA at the address below within thirty (30) days of the date that the well is plugged and abandoned. All pertinent information should be submitted to the appropriate State agencies.

Illinois Environmental Protection Agency
Bureau of Land -- #33
Permit Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

7. All wells/piezometers shall be clearly identified and shall be equipped with protective caps and locks. Monitoring wells or piezometers located in high traffic areas must be protected with bumper guards.

8. All groundwater monitoring wells and piezometers not utilized in the approved groundwater monitoring system, but retained by the facility, must be constructed and maintained in accordance with 77 Ill. Adm. Code 920 regulations. Monitoring wells and piezometers that are improperly constructed must be abandoned in accordance with Condition V.D.4.

E. GROUNDWATER PROTECTION STANDARD

1. The following hazardous constituents and their concentration limits (35 Ill. Adm. Code 620, Class I, Groundwater Quality Standards) comprise the groundwater protection standard for the groundwater monitoring wells found in Conditions V.D.1.

Field Parameters	Storet	Units
pH	00400	
Specific Conductance	00094	micromos/cm
Temperature of Water Sample	00011	(°F)
Turbidity	45626	Ntus
Depth to Water (below land surface)	72019	Feet
Depth to Water (below measuring point)	72109	Ft bgs
Elevation of Groundwater Surface	71993	Ft MSL
Elevation of Bottom of Well #	72020	Ft MSL
Elevation of Measuring Point (Top of casing)##	72110	Ft MSL

Shall be determined during the first semi-annual sampling event each year.
Shall be surveyed once every five (5) years, or at the request of the Illinois EPA, or whenever the elevation changes as required by Condition V.J.9.a.

Hazardous Constituents	Storet No.	Concentration Limits (mg/L)
Metals		
Antimony	01097	0.006
Arsenic	01002	.05

Hazardous Constituents	Storet No.	Concentration Limits (mg/L)
Metals		
Barium	01007	2.0
Beryllium	01012	0.004
Cadmium	01027	0.005
Chromium	01034	0.1
Cobalt	01037	1.0
Lead	01051	0.0075
Mercury	71900	0.002
Nickel	01067	0.1
Selenium	01147	0.05
Vanadium	01087	0.049
VOCs		
1,2-Dichloroethane	34531	0.005
1,3-Dichlorobenzene	34561	0.0002
1,4-Dichlorobenzene	34571	0.075
2-Butanone (MEK)	81595	4.2
Benzene	34030	0.005
Carbon Disulfide	77041	0.7
Chlorobenzene	34301	0.1
Chloroform	32106	0.0002
Ethylbenzene	78113	0.7
Toluene	34010	1.0
Total Xylenes	34020	10.0
Methyl Tertiary-Butyl Ether	46491	0.07
Styrene	77128	0.1
SVOCs		
2,4-Dimethylphenol	34606	0.14
2,4-Dinitrophenol	34616	0.014
2-Methylphenol (o-cresol)	77152	0.35
4-Methylphenol (p-cresol)	77146	0.035
4-Nitrophenol	34646	--
Anthracene	34220	2.1
Benzo(a)anthracene	34526	0.00013
Benzo(a)pyrene	34247	0.0002
Benzo(b)fluoranthene	34230	0.00018

Hazardous Constituents	Storet No.	Concentration Limits (mg/L)
SVOCs		
Benzo(k)fluoranthene	34242	0.00017
Bis(2-ethylhexyl)phthalate	39100	0.006
Butyl benzyl phthalate	34292	1.4
Chrysene	34320	0.0015
Dibenzo(a,h)anthracene	34556	0.0003
Diethyl phthalate	34336	5.6
Dimethyl phthalate	34341	--
Di-n-butyl phthalate	39110	0.7
Di-n-octyl phthalate	34596	0.14
Fluoranthene	34376	0.28
Naphthalane	34696	0.14
Phenanthene	34461	0.21
Phenol	34466	0.035
Pyrene	34469	0.1
Pyridine	77045	0.007

-- Not available

2. Alternate concentration limits may be established where the Permittee can determine a constituent will not pose a substantial hazard to human health or the environment.

   a. Where a hazardous constituent has a standard in 35 Ill. Adm. Code 620, the facility must apply for an adjusted standard as outlined in Section 28.1 of the Environmental Protection Act or reapply once corrective measures have been implemented pursuant to 35 Ill. Adm. Code 620.450.

   b. For those hazardous constituents without a 35 Ill. Adm. Code 620 standard, the alternative concentration limits proposed by the facility must be approved by the Illinois EPA.

3. The compliance period (post-closure period) during which the groundwater protection standard applies shall be extended until the Permittee demonstrates that the groundwater protection standard has not been exceeded at the point of compliance for three (3) consecutive years.

F. GROUNDWATER MONITORING PROGRAM

The Permittee shall conduct the Corrective Action Program and perform groundwater monitoring detailed in this section, in accordance with the following:

1. The Permittee shall monitor the Observation wells and the GMZ Boundary Wells designated in Condition V.D.1 for the hazardous constituents listed in Condition V.E.1 above. Samples must be collected as follows:

   a. Observation wells must be sampled semi-annually; and

   b. GMZ Boundary wells must be sampled quarterly or semi-annually, as identified in Condition V.D.1. The GMZ Boundary Wells that require quarterly sampling will be sampled quarterly for one year. After one year, these GMZ Boundary Wells will be sampled on a semi-annual basis.

2. In accordance with 35 Ill. Adm. Code 620.250, a GMZ is a three dimensional region containing groundwater being managed to mitigate impairment caused by the release of contaminants from the facility. The following groundwater monitoring wells shall define the outermost horizontal and vertical extent of the approved GMZ:

   a. GMZ Boundary Wells listed by location:

      - Northern Boundary: H-31B, G084, G073, R063, G062, G067, G068, G69R, G76L, G75L, and G74L;
      - Eastern Boundary: G055, G045, G-5B, G085, G04R, RG36, G35, G005, G91, G92, G93L, G006, and G008;
      - Southern Boundary: G37, G111, G112, and G302; and
      - Western Boundary: G303, G023, G021, G078, G079, G059, G32R, and G061.

   b. Vertical boundaries of the GMZ shall range from the approximate top of the uppermost aquifer (30 feet bgs) to the top of the bedrock surface at the Main Plant property.

c. The GMZ Boundary Wells, as identified in Condition V.F.2.a, shall be used for statistical evaluations of groundwater quality data as follows:

i. The groundwater quality data shall be statistically evaluated for the constituents required by Condition V.E.1, in accordance with the trend analysis described in the Class 1* Permit Modification Request", dated April 21, 2009.

ii. The facility must test the data for seasonality to verify that the Mann-Kendall test is appropriate.

iii. The trend analysis must be performed on all GMZ Boundary wells annually, until the end of corrective action.

iv. The results of the statistical evaluation shall be included with the second semi-annual groundwater monitoring report required by Condition V.I.14 of the Permit.

v. If the Permittee determines that a statistically significant increase has occurred for any COCs identified in Condition V.E.1, that are detected at least once during the most recent eight (8) sampling events, the Permittee must notify the Illinois EPA in writing within seven (7) days. The notification must indicate what concentration limits have been exceeded.

vi. Within ninety (90) days of a statistically significant increase, the Permittee must submit an evaluation of the effectiveness of the corrective action to manage the impact to groundwater as identified by the statistically significant increase.

vii. If the report, required in Condition V.F.2.c.vi, concludes the corrective action is not effective in managing the impact to groundwater, the Permittee must submit an application for a permit modification to make any appropriate changes to the program.

d. The results of monitoring the GMZ shall be submitted to the Illinois EPA semi-annually in accordance with the schedule found in Condition V.I.2.

e. The GMZ expires when all groundwater monitoring wells within the GMZ have attained the appropriate Class I concentration limits that comprise the groundwater protection standard found in Condition V.E.1.

f. The appropriate Class I concentration limits shall be considered attained when groundwater monitoring results meet the appropriate concentration limit for two (2) consecutive years.

3. The Corrective Action Program shall control the horizontal and vertical flow in the vertical column of water present in the uppermost aquifer beneath the facility and monitor the position and rate of migration of the Hydrocarbon Pool as follows:

a. The pumping from the Gradient Control Wells (COD well) shall maintain the cone of depression to ensure groundwater flow is adequately controlled in the uppermost aquifer.

b. The pumping rate from each Gradient Control Well (COD well) shall be recorded daily. This data shall be used to calculate the monthly average withdrawal rate for the Gradient Control System.

4. The Permittee shall monitor the groundwater horizontal and vertical gradients in the uppermost aquifer beneath the facility.

5. The Permittee shall record the following measurements and submit to the Illinois EPA semi-annually as required by Condition V.I.2.

a. A record of the amount of groundwater withdrawn each day by the COD wells.

b. Quarterly monitoring of the piezometric head at wells identified in Condition V.D.1 above to demonstrate that groundwater flow is properly controlled throughout the contaminated area requiring corrective action.

c. The amount of hydrocarbon recovered from each recovery well and the entire system.

d. The measured thickness of hydrocarbon product encountered at each well identified in Condition V.D.1 and V.D.2.

6. The Permittee shall determine the groundwater flow rate and direction in the uppermost aquifer at least annually from the monitoring wells listed in Condition V.D.1.

7. The groundwater quality in the uppermost aquifer shall be monitored on a quarterly or semi-annual basis at each of the wells identified in Condition V.D.1, and submitted to the Illinois EPA semi-annually, as identified in Condition V.I.2.

8. If the groundwater gradient is not maintained, as required by Condition V.F.3, or a contamination is migrating beyond the GMZ Boundary Wells, the Permittee shall submit an application for a permit modification, as required by Condition V.J.

9. Prior to making any changes on-site which might affect the overall program associated with controlling the groundwater flow as required by Condition V.F.3 of the permit (i.e., maintain and verify an inward gradient), the Permittee must obtain written permission from the Illinois EPA. Detailed information regarding the changes shall be submitted to the Illinois EPA at least 120 days prior to the date that the change is to be made. Disapproval or approval with modifications of any written requests for changes shall be subject to the appeal provisions of Section 40 of the Illinois Environmental Protection Act.

10. The Permittee shall maintain all equipment associated with withdrawal and treatment of water withdrawn from the uppermost aquifer to adequately control groundwater flow. This includes maintenance of any pollution control equipment (i.e., air pollution and water pollution control equipment) necessary for these activities.

G. GROUNDWATER ELEVATIONS

1. The Permittee shall determine the groundwater surface elevation referenced to MSL at each well each time groundwater is sampled in accordance with Condition V.I.3.

2. The Permittee shall report the surveyed elevation of stick-up and ground surface referenced to MSL once every five (5) years or at the request of the Illinois EPA, or whenever the elevation changes in accordance with Condition V.I.9.

3. Elevation, as referenced to MSL, of the bottom of each monitoring well (STORET 72020), is to be reported at least annually. The mandatory measurement shall be taken during the second quarter sampling event each year.

H. SAMPLING AND ANALYSIS PROCEDURES

The Permittee shall follow the techniques and procedures described in Volume 2, Section 3 of the approved Permit Renewal Application, except as modified below, when obtaining and analyzing samples from the groundwater monitoring wells described in Condition V.D.1:

1. Samples shall be collected by the techniques described in Section 3.5 of Volume 2, of the approved Permit Renewal Application.

2. Samples shall be preserved, shipped and handled in accordance with the procedures specified in Sections 3.6 through 3.9 of Volume 2, of the approved Permit Renewal Application.

3. Samples shall be analyzed according to the procedures specified in Section 3.5 of Volume 2, of the approved Permit Renewal Application. Groundwater analysis must be in accordance with the applicable methods found in USEPA's "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846) Third Edition, Final Update III (December 1996), or the most current SW-846 Method.

4. Samples shall be tracked and controlled using the chain-of-custody procedures specified in Section 3.10.2 of Volume 2 of the approved Permit Renewal Application.

5. The Permittee must submit a Class 1* modification request to revise the Standard Operating Procedures for Low Flow Groundwater Sample Acquisition, within ninety (90) days of the effective date of this Renewal Permit, to provide requirements for pump placement that are better suited for sampling dissolved light non-aqueous phase liquid constituents.

I. REPORTING AND RECORDKEEPING

1. The Permittee shall enter all monitoring, testing and analytical data obtained in accordance with Conditions V.E, V.F and V.G into the operating record.

2. Samples collected to meet the requirements of the groundwater monitoring program described in Conditions V.E, V.F and V.G shall be collected and reported as identified in the table below. The results of the analyses conducted on the groundwater quality samples shall be submitted in accordance with this schedule. All additional data collected for the groundwater monitoring program as specified

in Conditions V.E, V.F and V.G shall also be submitted to the Illinois EPA in accordance with this schedule.

Sampling Event of Calendar Year	Samples to be Collected During the Months of	Results Submitted to the Agency by the Following
First Quarter	January - February	July 15
Second Quarter	April - May	July 15
Third Quarter	July - August	January 15
Fourth Quarter	October - November	January 15

3. Groundwater surface elevation data, measured pursuant to Condition V.G.1, shall be collected quarterly and submitted to the Illinois EPA as identified in Condition V.I.2.

4. Groundwater withdrawal rates, calculated pursuant to Condition V.F.5 shall be submitted semi-annually as identified in Condition V.I.2.

5. Gradient control measurements collected pursuant to Condition V.F.5 shall be submitted to the Illinois EPA semi-annually as identified in Condition V.I.2.

6. Statistical evaluations, as required by Condition V.F.2.c, shall be submitted to the Illinois EPA as a part of the second semi-annual report as identified in Condition V.I.2 (January 15).

7. The groundwater flow rate and direction, determined pursuant to Condition V.F.6, shall be submitted annually as a part of the second quarter report as identified in Condition V.I.2.

8. Groundwater quality samples collected to meet the requirements of Condition V.F.1 shall be collected quarterly or semi-annually and submitted to the Illinois EPA as identified in Condition V.I.2. The extent of dissolved contamination must be depicted on figures as needed to define the extent of contamination.

9. The Permittee shall report the surveyed elevation, as required by Condition V.G.2, of the top of the well casing ("stick-up"), referenced to MSL, in accordance with the following schedule:

a. For wells identified in Condition V.D.1 above, every five (5) years (during the second semi-annual sampling event), or at the request of the Illinois EPA, or whenever the elevation changes.

b. For any new wells, at the time of installation and reported in the as-built diagrams. Subsequent measurements shall be made every five (5) years (during the second quarter sampling event) or whenever the elevation changes.

10. Elevation of the bottom of each monitoring well identified in Condition V.D.1, referenced to MSL, is to be reported annually. This measurement shall be taken during the second quarter sampling event (Storet 72020).

11. Information required by Conditions V.I.2, V.I.3, V.I.9 and V.I.10 must be submitted in an electronic format. The information is to be submitted as fixed-width text files formatted as found in Attachment B of this permit, in accordance with the schedule found in Condition V.I.2. Additional guidance regarding the submittal of the information in an electronic format can be found at www.epa.state.il.us/land/regulatory-programs/permits-and-management/index.html.

12. The Permittee shall submit a completed "RCRA Facility Groundwater, Leachate and Gas Reporting Form" (LPC 592) as a cover sheet for any notices or reports required by the facility's permit for identification purposes. Only one (1) copy of the LPC 592 must accompany your submittal. However, the Permittee must submit one (1) original and (excluding the groundwater and leachate monitoring results submitted in an electronic format) a minimum of two (2) copies of each notice or report you submit to the Illinois EPA. The form is not to be used for permit modification requests.

13. The Permittee shall report all information to the Illinois EPA in a form which can be easily reviewed. All submittals must contain tables of data, drawings, and text (as necessary) to accurately describe the information contained in the submittal.

14. The Permittee shall submit a written report to the Illinois EPA, in accordance with the schedule found in Condition V.I.2, which discusses the effectiveness of the corrective action program. At a minimum, the report must:

a. Address the information requirements in Conditions V.D, V.E, V.F and V.G.

b. Evaluate the effectiveness of the hydraulic control and contaminant removal from the GMZ including the information required by Condition V.E.

c. Provide a discussion of any change in the quality of groundwater beneath the facility which has resulted from the corrective action.

15. If the Permittee determines that groundwater flow is not being adequately controlled, the Permittee shall:

a. Notify the Agency in writing within seven (7) days of the date that this determination is made;

b. Take actions as necessary to regain the control of groundwater flow as required by Condition V.F.3.

c. Submit a written report to the Illinois EPA within thirty (30) days describing the actions taken to regain control of groundwater flow. In addition, the report must contain information which demonstrates that groundwater flow is being adequately controlled.

d. Submit a request for permit modification to the Illinois EPA within sixty (60) days describing any changes which must be made to the corrective action program to ensure that the groundwater flow is adequately controlled.

J. REQUEST FOR PERMIT MODIFICATION

1. If the Permittee determines that the corrective action program required by this permit no longer satisfies the requirements of 35 Ill. Adm. Code 724, Subpart F, the Permittee must, within 90 days, submit an application for permit modification to the Bureau of Land of the Illinois EPA to make any appropriate changes to the program which will satisfy the regulations.

2. Conditions in this section of the permit may be modified by the Illinois EPA in accordance with 35 Ill. Adm. Code 702.183 and 705.128 if there is cause for such modification, as defined in 35 Ill. Adm. Code 702.184. Causes for modification in this section of the regulations include, but are not limited to, alterations to the

permitted facility, additional information which would have justified the application of different permit conditions at the time of permit issuance, and new regulations.

SFN:JKM:1191150001-RCRA-B-147R-M-5

SECTION VI
REPORTING AND NOTIFICATION REQUIREMENTS

The reporting and notification requirements of each section of the RCRA permit are summarized below. This summary is provided to highlight the various reporting and notification requirements of this permit.

Condition	Submittal	Due Date
SECTION III: STANDARD CONDITIONS		
6	Complete application for new permit.	At least 180 days prior to permit expiration.
11	Information requested by Agency and copies of records required to be kept by this permit.	Reasonable time.
14	Notify Agency of planned physical alterations or additions.	At least 15 days prior to planned change.
16	Notify Agency of changes which may result in permit noncompliance.	In advance of changes.
17	Application for permit modification indicating permit is to be transferred.	No later than 90 days prior to change.
19	Submission of any information required in a compliance schedule.	Within 14 days after each schedule date.
20	Report to Agency any non-compliance which may endanger health or environment.	
	Telephone	Within 24 hours after discovery.
	in writing	Within 5 days after discovery.

Condition	Submittal	Due Date
21	Report all other instances of noncompliance.	March 1 of each year along with Annual Report.
SECTION IV: CORRECTIVE ACTION		
I.1.a	Quarterly Summary of Corrective Action Efforts:	
	January – March	April15
	April – June	July 15
	July-September	October 15
	October – December	January 15
I.2	Annual Report of Corrective Action Program Activities	March 1 of each year.
I.3	Final Report for each parcel/area	As corrective action is completed.
SECTION V: GROUNDWATER CORRECTIVE ACTION PROGRAM		
V.D.4	Notify Illinois EPA if any of the wells identified in Condition V.D.1 and V.D.2 are damaged or the structural integrity has been compromised.	Within 30 days of the date the damage is detected.
V.D.6	Provide Illinois EPA boring logs, construction diagrams, and data sheets from new or replacement wells.	Within 30 days of the date installation is complete.
V.I.2	Groundwater monitoring data required each quarter, and additional data required in Conditions V.E., V.F, and V.G.	Semi-annually

Condition	Submittal	Due Date
V.I.3	Collect groundwater surface elevation data, each time the well is sampled.	Semi-annually
V.I.4	Groundwater withdrawal rates.	Semi-annually
V.I.5	Gradient control measurements.	Second Semi-Annual Event (January 15)
V.I.6	Statistical evaluations, as required by Condition V.F.2.c.	Semi-annually
V.I.7	Groundwater flow rate and direction in the uppermost aquifer.	Semi-annually
V.I.8	Collect groundwater samples quarterly or semi-annually, and depict the extent of dissolved contamination to define the extent of contamination.	Semi-annually
V.I.9	The surveyed elevation of the top of well casing.	Every 5 years.
V.I.10	Elevation of the bottom of each monitoring well.	Annually during the second quarter sampling event.
V.I.11	Electronic Reporting.	Semi-annually
V.I.14	Report on effectiveness of corrective action.	Semi-annually
V.I.15.a	Notify the Illinois EPA if groundwater flow is not adequately controlled.	Within 7 days of the determination.
V.I.15.c	Report actions taken to regain control of groundwater flow.	Within 30 days of the determination.
V.I.15.d	Submit a permit modification if any changes must be made to the corrective action program.	Within 60 days of the determination.

Condition	Submittal	Due Date
V.J.1	Submit a permit modification to make any appropriate changes to the program.	Within 90 days of determining correction action is not effective.
V.J.2	Request to modify conditions within Section V.	As needed.

SFN:JKM:1191150001-RCRA-B-147R-M-5

ATTACHMENT A

Required Scope of Work
for a RCRA Facility Investigation

LPC #1191150001

ILD980700967

RCRA Log No. 147R-M-5

ATTACHMENT A

SCOPE OF WORK FOR A RCRA FACILITY INVESTIGATION

This Scope of Work relates specifically to the RCRA Facility Investigation (RFI) of the solid waste management units identified in Section IV of this RCRA Permit, which the Permittee is required to perform under the terms of this RCRA permit. In this Scope of Work, "Agency's DLPC" refers to the Illinois Environmental Protection Agency's Division of Land Pollution Control, "Permittee" refers to BP Products North America, and "SWMU" refers to Solid Waste Management Unit.

I. PURPOSE

The purpose of the RFI is to determine the nature and extent of releases of hazardous waste or hazardous constituents, if any, from SWMUs located at the facility and to gather data necessary to prepare a Corrective Action Plan (CAP). Specifically, the information gathered during the RFI will be used to help determine the need, scope and design of a corrective action program.

II. SCOPE OF WORK

The Scope of Work for the RFI is divided into three phases -- Phases I, II and III.

- The purpose of Phase I is to provide information on the characteristics and integrity of each unit and conduct field activities, as necessary, to determine if a SWMU has released, is currently releasing, or has the potential to release hazardous waste and/or hazardous constituents to the environmental media of concern for each SWMU listed in Section V, Condition B.1 of this permit.

- Phase II of the RFI will be required if the Agency's DLPC determines from the data obtained in Phase I that, for any SWMU: (1) a release has occurred to an environmental media of concern for that unit, (2) a release is occurring to an environmental media of concern for that unit, or (3) the results of the Phase I investigation are inconclusive. The purpose of the Phase II investigation is to

define the extent of releases to the environmental media of concern from these SWMUs.

- Phase III of the RFI will be required if the Agency's DLPC determines from the data obtained from Phase II investigations that hazardous wastes or hazardous constituents have migrated to the groundwater from SWMU(s) not initially thought to have potentially released hazardous waste or hazardous constituents to groundwater. The purpose of Phase III is to define the extent of releases both on-site and off-site to the groundwater from SWMUs identified in Phase I or Phase II to have potentially released hazardous waste or hazardous constituents to the groundwater.

Each phase of the investigation is divided into three subparts. The first subpart deals with the development of a RFI Workplan by the Permittee. The second subpart is the implementation of the RFI. The final subpart covers the submission of reports of activities and results of the RFI.

III. RFI WORKPLANS

The Permittee shall prepare a detailed workplan for each phase of the RFI which contains detailed background information related to the facility and the SWMUs listed in Condition B.1 of Section V of the permit and which describes procedures for each phase of the RFI in accordance with the schedule in Section V of the permit. Condition IV.B.1 of the permit also identifies the environmental media of concern for each SWMU which must be investigated and provides additional guidance regarding what the focus of the RFI should be for some of the SWMUs of concern. The RFI Workplan must, at a minimum, contain the information identified in III.A-III.H below. The information in the workplan must be presented in a manner which is similar to the format set forth in these sections. (If it is desired to develop a workplan using some other format, then a checklist must be developed identifying the exact location where each item below is addressed (page number and paragraph)). Information provided in each Phase of the RFI may be incorporated into the workplan for the subsequent Phase by reference. Information already submitted in the Part B permit application may also be incorporated by reference into the workplans when appropriate (any such reference must identify the page on which the information in question is located).

A. GENERAL FACILITY INFORMATION

The following information must be provided (to the extent known) in the Phase I RFI Workplan regarding the facility overall:

1. A description of the facility, including the nature of its business, both past and present. This description should identify (1) the size and location of the facility, (2) the raw materials used and products manufactured at the facility and (3) the Standard Industrial Code which describes the type of activities carried out at the facility;

2. Identification of past and present owners;

3. A discussion of the facility's past and present operations, including solid and hazardous waste generation, storage, treatment and disposal activities;

4. A brief discussion of each of the SWMUs identified in Condition B.1 of Section V of this permit;

5. A description of all significant surface features (ponds, streams, depressions, etc.) and wells within 1,500 feet of the facility;

6. A description of all land usage within 1,500 feet of the facility, including all known SWMUs;

7. Identification of all human populations and environmental systems susceptible to contaminant exposure from releases from the SWMUs within a distance of at least 1,500 feet of the facility;

8. A description of any interim corrective action measures which were or are being planned or undertaken at the facility;

9. Approximate dates or periods of past spills or releases, identification of material spilled, amount spilled, location, and a description of the response actions, including any inspection reports or technical reports generated as a result of the spill or release.

10. A current topographic map(s) showing a distance of at least 1,500 feet around the facility and other information described below, and at a scale of one inch equal to not more than 200 feet. Contours shall be shown on

the map, with the contour interval being sufficient to clearly show the pattern of surface water flow. If such a map is not available, the workplan shall describe the method for generating the map for inclusion in the Phase I report. The map shall clearly show the following:

a. Map scale, North arrow, date, and location of facility with respect to Township, Range and Section;

b. Topography and surface drainage depicting all waterways, wetlands, 100-year floodplain, drainage patterns, and surface water areas;

c. Property lines, with the owners of all adjacent property clearly indicated;

d. Surrounding land use;

e. Locations and boundaries of (1) all solid waste, including hazardous waste, management units, both past and present, (2) spill areas and (3) other suspected areas of contamination;

f. All injection and withdrawal wells, and

g. All buildings, tanks, piles, utilities, paved areas, easements, rights-of-way, and other features including all known past and present product and waste underground tanks or piping.

The map(s) shall be of sufficient detail and accuracy to locate and report all current and future RFI work performed at the site. The base map(s) shall be submitted in the Phase I report and modified in subsequent reports and workplans as appropriate.

B. NATURE AND EXTENT OF CONTAMINATION

The Phase I Workplan must contain the following information, to the extent known, for each of SWMUs identified in Condition B.1 of Section V of the permit:

1. Location of unit/area;

2. The horizontal and vertical boundaries of each unit/area;

3. Details regarding the construction, operation and structural integrity of each unit/area;

4. A description of all materials managed and/or disposed at each SWMU including, but not limited to, solid waste, hazardous wastes, and hazardous constituents to the extent they are known or suspected over the life of the facility including:

   (a) Type of waste or hazardous constituents placed in the units, including source, hazardous classification, quantity and chemical composition;

   (b) Physical and chemical characteristics, including physical form, physical description, general chemical class, cohesiveness of the waste;

5. Quantities of solid and hazardous wastes managed by the unit;

6. The history of the utilization of each SWMU and the surrounding areas, including the period of operation and age of the unit;

7. Methods used to close the unit, if applicable;

8. All available data and qualitative information on the level of contamination present at the SWMU;

9. A description of the existing degree and extent of contamination at each unit area.

10. Identification of additional information which must be gathered regarding 1 thru 9 above;

C. ADMINISTRATIVE OUTLINE

The Permittee shall submit as part of the workplan for each phase of the RFI a general outline defining the RFI objectives, technical approach, and scheduling of tasks during that phase of the RFI. The Permittee shall prepare a Project Management Plan as part of each Phase Workplan which will include a discussion of the technical approach, schedules, budget, and personnel. The Project Management Plan must also include a description of the qualifications of personnel performing or directing the RFI, including contractor personnel. This plan shall also document the overall management approach to the current Phase of the RFI.

D. SITE-SPECIFIC SAMPLING PLANS

The Permittee shall prepare detailed site-specific sampling plans for each phase of the RFI which address all field activities needed to obtain site-specific data. The plans must contain: a statement of sampling objectives, specifications of equipment, analyses of interest, sample types, sample locations and schedules for sampling. Wherever appropriate, sample collection, handling, preservation, preparation and analysis described in Test Methods for Evaluating Solid Wastes, Third Edition, (SW-846), shall be utilized. The plans must address all levels of the investigations, as well as types of investigations conducted on specific environmental media (i.e., soil, air, surface water, groundwater). The plans must describe in detail how each phase of the RFI will be implemented.

1. Phase I Sampling and Analysis Plan

The Phase I Workplan must provide for a determination of the presence or absence of releases of hazardous waste and hazardous constituents into the soil around and under each SWMU or AOC for which soil was listed as an environmental media of concern in Section V, Condition B.1 of this permit, based upon the information present in the Phase I Work Plan. To meet this requirement, the plan must identify:

a. Soils Investigation

(1) The procedures which will be used to describe and characterize the soils in and around the subject SWMU(s) down to the water table, including, but not limited to the following:

(a) Unified Soil Classification;

(b) Soil profile; and

(c) Elevation of water table;

(2) The parameters and hazardous constituents to be used to establish the presence or absence of contamination. These must include, but are not limited to, specific hazardous constituents of wastes known or suspected to have been managed by the SWMU(s) as identified and determined by the unit characterization information presented in the work plan.

(3) The basis for selecting the parameters and constituents in (3) above.

(4) The methodology for choosing sampling locations, depths, and numbers of samples.

(5) Sampling procedures for each parameter or constituent to be analyzed. All soil samples taken must be handled in accordance with 40 CFR 261, Appendix III and the Agency's DLPC soil volatile sampling procedure if volatiles are to be analyzed. All other environmental media samples must be collected and handled in accordance with EPA approved and standardized methods for evaluation of solid wastes.

(6) Analytical methods to be used in the analysis of the samples. If any of these methods is not consistent with those specified in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (U.S. EPA SW-846), a complete description of the methods to be used and the justification for not using the appropriate SW-846 methods must be provided.

(7) Procedures and criteria for evaluating analytical results to establish the presence or absence of any contamination.

2. Phase II Sampling and Analysis Plan

The Phase II Sampling and Analysis plan, if necessary, must describe procedures to determine the nature and extent of hazardous waste and/or hazardous constituents released to the soil. This plan shall address and/or include, at a minimum:

(1) A description of what is known about the horizontal and vertical extent of contamination;

(2) A description of relevant contaminant and environmental chemical properties within the affected source area and plume, including solubility, specification absorption, leachability, exchange capacity biodegradability, hydrolysis, photolysis, oxidation and other factors that might affect contaminant migration and transformation (if known);

(3) Specific contaminant concentrations, if known;

(4) The horizontal and vertical velocity and direction of contaminant movement (if known);

(5) An extrapolation of future contaminant movement (if known); and

(6) The methods and criteria to be used to define the boundaries of the plume(s) of contamination;

(7) The parameters and constituents to be used to establish the presence or absence of a plume of contamination. This must include, but need not be limited to, specific hazardous constituents of wastes known or suspected to have been placed in the SWMUs;

(8) The basis for selecting the parameters and constituents in 7 above;

(9) The methodology for choosing sampling locations depths, and numbers of samples;

(10) Sampling procedures for each parameter or constituent to be analyzed;

(11) Analytical methods to be used in the analysis of the samples. If any of these methods are not identical to those specified in Test Methods for

Evaluating Solid Waste, Physical/Chemical Methods, (US EPA SW-846), a complete description of the methods to be used and the justification for not using the SW-846 methods shall be provided; and

(12) Procedures and criteria for evaluating analytical results to establish the presence or absence of any plume of contamination.

3. Potential Receptors

The Phase I RFI Workplan must provide data describing the human populations and environmental systems within a radius of 1,500 feet of the facility boundary that may be affected by releases from SWMUs must be collected and submitted to the Agency. The following characteristics shall be identified.

a. Local uses and possible future uses of groundwater:

(1) Type of use (e.g. municipal or residential drinking water source, industrial, etc.); and

(2) Location of groundwater users, including wells and discharge areas.

b. Local uses and possible future uses of surface waters draining the facility:

(1) Domestic and municipal;

(2) Recreational;

(3) Agricultural;

(4) Industrial; and

(5) Environmental.

c. Human use of, or access to, the facility and adjacent lands, including, but not limited to:

(1) Recreation;

(2) Agriculture;

(3) Residential;

(4) Commercial;

(5) Zoning; and

(6) Location between population locations and prevailing wind direction.

d. A description of the biota in surface water bodies on, adjacent to, or affected by the facility.

e. A description of ecology of, and adjacent to the facility.

f. A demographic profile of the people who use or have access to the facility and adjacent land, including, but not limited to: age, sex, and sensitive subgroups.

g. A description of any endangered or threatened species near the facility.

4. Hydrogeologic and Hydrologic Investigation

The potential for release to groundwater from a given SWMU must be investigated as part of Phase I of the RFI if prior environmental media investigations or information obtained from the RFA indicate releases from a SWMU may have migrated to the groundwater below the site. The Phase I hydrogeologic and geologic investigation plan must provide descriptions of groundwater monitoring systems which will provide adequate data on the detection, nature, extent and rate, and concentration of any release to the groundwater from each of these units.

Groundwater monitoring will not be required for a given SWMU during the RFI Phase I investigation if the Permittee can demonstrate, based upon data obtained from prior site-specific environmental media investigations that no releases have occurred from the SWMU(s), or, based upon such environmental media investigations, that contaminants from the subject SWMU(s) have not entered the groundwater. Those units in Section V, Condition B.1 of this permit which have "groundwater" as an environmental media of concern are the units for which a Phase I hydrogeologic and hydrologic investigation must be conducted.

The information which must be provided regarding the Phase I investigation of hydrogeology and hydrology at each SWMU identified above includes:

a. Information, as it is available, regarding:

(1) The regional geologic and hydrogeologic characteristics in the vicinity of the facility, including stratigraphy, hydrogeologic flow and the areas of recharge and discharge;

(2) Any topographic or geomorphic features that might influence the groundwater flow system;

(3) The hydrogeologic properties of all of the hydrogeologic units found at the site down to the first bedrock aquitard, including: hydraulic conductivity and porosity, texture, uniformity and lithology; an interpretation of hydraulic interconnections between saturated zones, and zones of significant fracturing or channeling in the unconsolidated and consolidated deposits;

(4) Using the facility map as a base, isopach and structural contour maps, and at least two (2) geologic cross sections showing the extent (depth, thickness, lateral extent) of all hydrogeologic units within the facility boundary, down to the first bedrock aquitard, identifying: all units in the unconsolidated and consolidated deposits; zones of higher permeability or lower permeability that might direct or restrict the flow of contaminants; perched aquifers; and the first saturated zone that may have a potential for migration of contaminants;

(5) The water level or fluid pressure monitoring, including: water level contour maps and vertical gradient sections, well or piezometer hydrographs and interpretation of the flow system, interpretation of any changes in hydraulic gradients, and seasonal fluctuation; and

(6) Any man-made influences that may affect the hydrogeology of the site, identifying local water supply and production wells and other man-made hydraulic structures within 1500 feet of the facility boundary.

b. Procedures for obtaining information identified in III.C.3.b above which was not obtained during preparation of the workplan.

c. Documentation that sampling and analysis of groundwater monitoring wells will be carried out in accordance with the approved Data Collection Quality Assurance Plan as required in III.F. below. The Plan shall provide information on the design and installation of all groundwater monitoring wells. The designs shall be in accordance with the latest version of the Technical Enforcement Guidance Document (TEGD), where appropriate, and the latest version of the Agency's DLPC design criteria. At a minimum:

(1) The groundwater monitoring wells must consist of monitoring wells installed in the uppermost aquifer and in each underlying aquifer (e.g., sand units) which are hydraulically interconnected;

(2) At least one background monitoring well in each aquifer shall be installed hydraulically upgradient (i.e., in the direction of increasing static head) from the limit of the SWMUs, except to the extent that SWMUs in close proximity can be investigated with the same background well system. The number, locations, and depths must be sufficient to yield groundwater samples that are: (a) representative of background quality in the uppermost aquifer and units hydraulically interconnected beneath the facility; and (b) not affected by SWMUs at the subject facility; and

(3) Monitoring wells in each appropriate aquifer shall be installed hydraulically downgradient (i.e., in the direction of decreasing static head) at the limit of the SWMU or at the limit of each group of proximate SWMUs. Their number, locations and depths must ensure that they allow for detection of releases of hazardous waste or hazardous constituents from the SWMU(s).

d. A sampling plan which specifies:

(1) The parameters and constituents to be used to establish the presence or absence of a plume of contamination. These must include, but need not be limited to, specific hazardous constituents of wastes determined to have been placed in or released from the SWMUs (including any possible degradation products);

(2) The basis for selecting the parameters and constituents in (1) above;

(3) The methodology for investigating the hydrostratigraphic units at site, and the locations, depths, and concentration specifications for each monitoring well;

(4) Sampling procedures for each parameter or constituent to be analyzed, including sampling frequency;

(5) Analytical methods to be used in the analysis of the samples. If any of these methods is not consistent with those specified in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (U.S. EPA SW-846), a complete description of the methods to be used and the justification for not using the appropriate SW-846 methods will be provided; and

(6) Procedures and criteria for evaluating analytical results to establish the presence or absence of any plume of contamination.

If the Agency's DLPC determines from the data obtained during the Phase III investigation that releases of hazardous waste or hazardous constituents have occurred to the groundwater or that the data are inconclusive, the Permittee will be required to submit a Groundwater Monitoring Plan to determine the vertical and horizontal distribution of the contaminants identified and to predict the long-term disposition of the contaminants. This groundwater monitoring program will require proposals for establishing the locations, depths, and construction specifications for additional monitoring wells necessary to delineate the extent of any plume. The methodology of the investigation, the sampling procedures, analytical methods, and procedures for evaluating analytical results to establish the extent of the plume shall be the same as above unless specifically identified in the Phase III workplan. The Groundwater Monitoring Plan must also specify the criteria which will be used to determine the limits of the plume.

5. Field screening techniques and other techniques utilized in detecting/evaluating petroleum releases may be used in conducting the RFI, if specifically approved by the Agency. However, detailed laboratory analyses must be used to (1) confirm the data collected using these techniques; (2) identify conclusively the horizontal

and vertical extent of contamination and (3) demonstrate that no additional corrective action is necessary to a particular SWMU.

E. DATA COLLECTION QUALITY ASSURANCE

The Permittee shall prepare a plan to document all monitoring procedures, sampling, field measurements, and sample analysis performed during the investigation so as to ensure that all information, data and resulting decisions are technically sound, statistically valid, and properly documented. This shall be submitted with each Phase Workplan.

Quality Assurance. Sampling methods and equipment, as well as laboratory analytical methods, shall follow guidance in U.S. EPA's SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (see 40 CFR 260.11) if appropriate. All field sampling methods not included in SW-846 must be approved by the Agency's DLPC before they are used in the RFI. This includes methods such as drilling, borings, etc. When applicable, standard procedures, as defined by U.S. EPA, IEPA or ASTM, should be followed. All soil samples which are to be taken must be handled in accordance with 40 CFR, Part 261, Appendix III and the Agency's soil volatile sampling procedures if volatile sampling is required. The analytical methods which will be used must be specified and must be approved by the Agency before they are implemented.

F. DATA MANAGEMENT PLAN

The Permittee shall develop and initiate a Data Management Plan to document and track investigation data and results. This Plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The Plan shall also provide the format to be used to present the raw data and conclusions of the investigation(s). This plan shall be submitted with the Workplan for each Phase of the RFI.

G. IMPLEMENTATION OF INTERIM MEASURES

At any time during the RFI the Permittee may initiate interim measures for the purpose of preventing continuing releases and/or mitigating the results of releases and/or mitigating the migration of hazardous wastes or hazardous constituents. It shall not be necessary to conduct all phases of the RFI investigation if the Agency's DLPC and the Permittee agree that a problem can be corrected, or a release cleaned up, without additional study and/or without a formal CMS.

The Permittee shall submit information on any past or ongoing interim measures which have been or are to be undertaken to abate threats to human health and the environment to the Agency's DLPC for approval. This information shall include, at a minimum:

1. Objectives of the interim measures: how the measure is mitigating a potential threat to human health and the environment and/or is consistent with and integrated into any long term solution at the facility;

2. Design, construction, and maintenance requirements;

3. Schedules for design and construction; and

4. Schedules for progress reports.

If the Agency's DLPC determines that a release cannot be addressed without additional study and/or a formal CMS then the Agency's DLPC will notify the Permittee that these must be performed. Any proposal made under this provision or any other activity resulting from such proposal, including the invocation of dispute resolution, shall not affect the schedule for implementation of the RFI or of any other portion of the permit.

If the Agency determines that interim measures are necessary to protect human health or the environment, the Permittee will be notified by way of a permit modification.

H. HEALTH AND SAFETY PLAN

Under the provisions of 29 CFR 1910 (54 FR 9,295, March 6, 1989), cleanup operations must meet the applicable requirements of OSHA's Hazardous Waste Operations and Emergency Response standard. These requirements include hazard communication, medical surveillance, health and safety programs, air monitoring, decontamination and training. General site workers engaged in activities that expose or potentially expose them to hazardous substances must receive a minimum of 40 hours of safety and health training off site plus a minimum of three days of actual field experience under the direct supervision of a trained experienced supervisor. Managers and supervisors at the cleanup site must have at least an additional eight hours of specialized training on managing hazardous waste operations. As such, a Health and Safety Plan must be contained in the Workplan for each phase of the RFI.

I. IMPLEMENTATION OF RFI

The Permittee shall conduct those investigations necessary to characterize the site, and to determine the nature, rate and extent of migration, and concentrations of hazardous waste and hazardous constituents, if any, released from the SWMU's into the surface water and sediments, groundwater, air, and soil. The investigations must be of adequate technical content to support the development and evaluation of a corrective action program, if one is deemed necessary by the Agency's DLPC.

The investigation activities shall follow the plans and procedures set forth in the Workplan(s) and the RFI schedule. Any actual or anticipated deviations from the Workplan(s) or the RFI schedule shall be reported no later than the time of submission of the next quarterly report required by Section V subsequent to the determination of need or actual deviation from the Workplan. The Permittee may use, when appropriate, previous investigation results to expedite the investigation process.

J. SUBMISSION OF REPORTS AND RESULTS OF RFI ACTIVITIES

The Permittee must prepare and submit quarterly progress reports and a final report on the activities and results of each Phase of the RFI activities as appropriate. The progress reports shall contain at a minimum:

1. An estimate of the percentage of the investigation completed;

2. Summary of activities completed during the reporting period;

3. Summaries of all actual or proposed changes to the Workplan or its implementation;

4. Summaries of all actual or potential problems encountered during the reporting period;

5. Proposal for correcting any problems;

6. Projected work for the next reporting period; and

7. Other information or data as requested in writing by the Agency's DLPC.

The workplans and reports which must be submitted to the Agency for review and approval in accordance with the schedule set forth in the following table:

Facility Action	Due Date
Submission of RFI Phase I Workplan	Within 120 days after effective date of the permit
Completion of RFI Phase I investigation and submission of Phase I Report and Summary	To be specified in the Phase I Workplan
Submission of RFI Phase II Workplan	Within 90 days after notification of the need of Phase II by Agency's DLPC
Completion of RFI Phase II investigation and submission of Phase II Report and Summary	To be specified in the Phase II workplan
Submission of RFI Phase III Workplan	Within 90 days after notification of the need for Phase III
Completion of RFI Phase III investigation and submission of Phase III Report and Summary	To be specified in the Phase III Workplan
Periodic Progress Reports	To be specified in workplans
Submission of Interim Measures Plan	Within 45 days from the date interim measures are determined to be necessary

SFN:JKM:1191150001-RCRA-B-147R-M-5

ATTACHMENT B

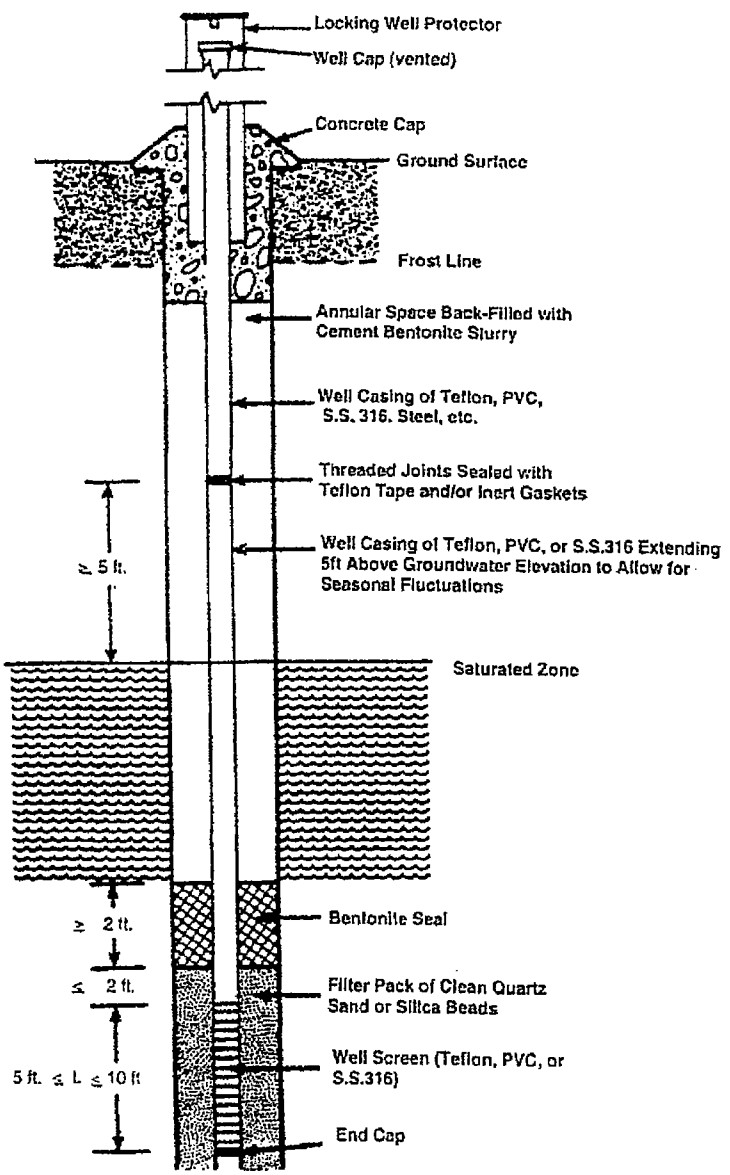
Groundwater Corrective Action Monitoring Program
Attachments

LPC #1191150001

ILD#980700967

RCRA Log No. 147R-M-5

Monitoring Well Diagram



Illinois Environmental Protection Agency

Field Boring Log Page ___ of ___

Site ID No. _____ Federal ID No. _____

Site Name: _____

Quadrangle: _____ Sec. _____ T. _____ R. _____

UTM (or State Plane) Coord. N. (X) _____ E. (Y) _____

Latitude: ____ ____ ____ Longitude: ____ ____ ____

Boring Location: _____

Drilling Equipment: _____

County: _____

Boring No. _____ Monitoring Well No. _____

Surface Elevation. _____ Completion Depth: _____

Auger Depth _____ Rotary Depth: _____

Date: Start: _____ Finish: _____

Elev.	Description of Material	Graphic Log	Depth In Feet	SAMPLES: Sample No.	Sample Type	Sample Recovery (X)	Penetrometer	N Values (Blow Counts)	OVA or HNU Readings	Personnel: G - D - H - H - / REMARKS

Illinois Environmental Protection Agency **Well Completion Report**

Site Number: _____ County: _____

Site Name: _____ Well #: _____

State

Plane Coordinate: X ____ Y ____ (or) Latitude: ___ ___ ___ Longitude: ___ ___ ___ Borehole #: _____

Surveyed by: _____ IL Registration #: _____

Drilling Contractor: _____ Driller: _____

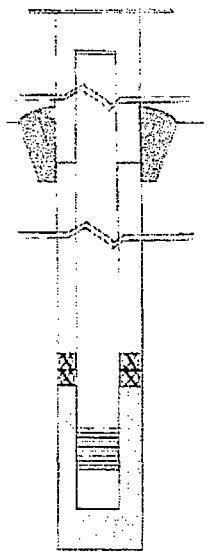
Consulting Firm: _____ Geologist: _____

Drilling Method: _____ Drilling Fluid (Type): _____

Logged By: _____ Date Started: _____ Date Finished: _____

Report Form Completed By: _____ Date: _____

ANNULAR SPACE DETAILS



Type of Surface Seal: _____

Type of Annular Sealant: _____

Installation Method: _____

Setting Time: _____

Type of Bentonite Seal - - Granular, Pellet, Slurry (Choose One)

Installation Method: _____

Setting Time: _____

Type of Sand Pack: _____

Grain Size: _____ (Sieve Size)

Installation Method: _____

Type of Backfill Material: _____ (if applicable)

Installation Method: _____

	Elevations (MSL)*	Depths (BGS)	(.01ft.)
	_____	_____	Top of Protective Casing
	_____	_____	Top of Riser Pipe
	_____	_____	Ground Surface
	_____	_____	Top of Annular Sealant
	_____	_____	Static Water Level (After Completion)
	_____	_____	Top of Seal
	_____	_____	Top of Sand Pack
	_____	_____	Top of Screen
	_____	_____	Bottom of Screen
	_____	_____	Bottom of Well
	_____	_____	Bottom of Borehole

* Referenced to a National Geodetic Datum

WELL CONSTRUCTION MATERIAL

(Choose one type of material for each area)

Protective Casing	SS304, SS316, PTFE, PVC, or Other
Riser Pipe Above W.T.	SS304, SS316, PTFE, PVC, or Other
Riser Pipe Below W.T.	SS304, SS316, PTFE, PVC, or Other
Screen	SS304, SS316, PTFE, PVC, or Other

CASING MEASURMENTS

Diameter of Borehole (inches)	
ID of Riser Pipe (inches)	
Protective Casing Length (feet)	
Riser Pipe Length (feet)	
Bottom of Screen to End Cap (feet)	
Screen Length (1st slot to last slot) (feet)	
Total Length of Casing (feet)	
Screen Slot Size **	

**Hand-Slotted Well Screens are Unacceptable

ILLINOIS EPA MONITOR WELL PLUGGING AND ABANDONMENT PROCEDURES

	Well Construction		Plugging Procedure
I. Unconsolidated Sediment Wells	I-A	...if backfilled with cement grout above bentonile seal and/or sandpack:	1. Cut casing off at desired depth. 2. Mix neat cement slurry (5 gal. water per 94 lb. bag cement). 3. Insert tremi pipe (1" i.d. pvc) into well and extend to bottom. 4. Slowly pump slurry under low pressure through temi pipe. 5. Slowly withdraw tremi pipe - making sure bottom of pipe remains below pure slurry. 6. Continue slow pumping until all formation water and the watery slurry mix is displaced from top of casing.
	I-B	...if backfilled with soft sediments (cuttings) above bentonite seal and/or sandpack:	1. Knock out and remove thin surface concrete plug, if present. 2. Re-auger entire length of well. 3. Remove well casing from re-augured borehole. 4. Mix neat cement slurry (5 gal. water per 94 lb. bag cement). 5. Insert tremi pipe (1" i.d. pvc) into augers and extend to bottom. 6. Slowly pump slurry under low pressure through tremi pipe. 7. Continue slow pumping until all formation water and the water slurry mix is displaced from top of casing. 8. Slowly withdraw tremi pipe - making sure bottom of pipe remains below pure slurry. 9. Pull a flight of augers (5" if in unstable materials and hole collapse is likely or 10" if in competent material and collapse is unlikely). 10. Top off cement slurry after each flight is removed.
	I-C	...if monitor well construciton is unknown:	1. Follow procedures in I-A.
II. Bedrock Wells	II-A	...All bedrock monitor wells:	1. Cut casing off at desired depth. 2. Mix neat cement slurry (5 gal. water per 94 lb. bag cement). 3. Insert tremi-pipe (1" i.d. pvc) into well and extend to bottom. 4. Slowly pump slurry under low pressure through tremi pipe. 5. Slowly withdraw pipe making sure bottom of pipe remains below pure slurry. 6. Continue slow pumping until all formation water and the watery slurry mix is displaced from top of casing.

Well Plugging Procedures (revised 02/06/02)

Formatting Requirements for the 01 Record of the Electronically Submitted Groundwater and Leachate Data (the 01 Record portion of the LPC-160 is included for example purposes)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

Page 1 of _____

RECORD CODE: L P C S M 0 1 (1–7) TRANS CODE: A (8)

REPORT DUE DATE ___/___/___ (36 M D Y 41)

FEDERAL ID NUMBER _____

SITE INVENTORY NUMBER _____ (9–18)

MONITOR POINT NUMBER _____ (see Instructions) (19–22)

RECION _____ CO. _____

DATE COLLECTED ___/___/___ (23 M D Y 28)

FACILITY NAME _____

FOR IEPA USE ONLY

LAB _____ (29)

DATE RECEIVED ___/___/___ (42 M D Y 47)

BACKGROUND SAMPLE (X) _____ (54) TIME COLLECTED (24 Hr. Clock) __:__ (55 H M 58)

UNABLE TO COLLECT SAMPLE _____ (see Instructions) (59)

MONITOR POINT SAMPLED BY _____ (see Instructions) (60) _____ OTHER (SPECIFY)

SAMPLE FIELD FILTERED — INORGANICS (X) _____ (61) ORGANICS (X) _____ (62)

SAMPLE APPEARANCE _____ (63–102)

COLLECTOR COMMENTS _____ (103–142)

LAB COMMENTS _____ (150–199)

IL 532 1213
LPC 160 01/90

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 ½, Section 1004 and 1021. Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues a fine up to $1,000.00 and imprisonment up to one year. This form has been approved by the Forms Management Center.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Keypunch with Data in Column 35 or Columns 38–47

KEY:

Spaces Numbered	Description	Format
Spaces 1-7	Record Code	LPCSM01
Space 8	Trans Code	A
Spaces 9-18	Site ID	0000000000
Spaces 19-22	Mon Pt ID	G000
Spaces 23-28	Date Collected	000000
Space 29	Lab	
Spaces 30-35	Filler	
Spaces 36-41	Report Due Date	000000
Spaces 42-47	Date Received	000000
Spaces 48-53	Filler 2	
Space 54	Background Sample	
Spaces 55-58	Time Collected	0000
Space 59	Unable to Collect Sample	
Space 60	Monitoring Point Sampled By	
Space 61	Field Filtered – Inorganic	
Space 62	Field Filtered – Organic	
Spaces 63-102	Sample Appearance	
Spaces 103-142	Collector Comments	
Spaces 143-149	Filler 3	
Spaces 150-199	Lab Comments	

Formatting Requirements for the 02 Record of the Electronically Submitted Groundwater and Leachate Data (the 02 Record portion of the LPC-160 is included for example purposes)

RECORD CODE | L | P | C | S | M | 0 | 2 | (1–7) TRANS CODE | A | (8) (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER (30–34)	Remarks See Inst. (35)	Replicants (36)	V or < (37)	VALUE (38–47)
Q	TEMP OF WATER (unfiltered °F)	00011				
Q	SPEC COND (unfiltered umhos)	00094				
Q	pH (unfilted units)	00400				
Q	ELEV OF GW SURF (ft ref MSL)	71993				
Q	DEPTH OF WATER (ft below LS)	72019				
A	BTM WELL ELEV (ft ref MSL)	72020				
Q	DEPTH TO WATER FR MEA PT (ft)	72109				

IL 532 1213
LPC 160 01/90

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 ½, Section 1004 and 1021. Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues a fine up to $1,000.00 and imprisonment up to one year. This form has been approved by the Forms Management Center.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

***Only Keypunch with Data in Column 35 or Columns 38-47**

KEY:

Spaces Numbered	Description	Format
Spaces 1-7	Record Code	LPCSM02
Space 8	Trans Code	A
Spaces 9-18	Site ID	0000000000
Spaces 19-22	Mon Pt ID	
Spaces 23-28	Date Collected	
Space 29	Lab	

Spaces 30-34	STORET Number
Space 35	Remarks
Space 36	Replicate
Space 37	< or >
Space 38-47	Value

SFN:JKM:1191150001-RCRA-B-147R-M-5

B-18

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 • (217) 782-2829
James R. Thompson Center, 100 West Randolph, Suite 11-300, Chicago, IL 60601 • (312) 814-6026

PAT QUINN, GOVERNOR DOUGLAS P. SCOTT, DIRECTOR

217/524-3300
March 4, 2011

Certified Mail
7009 3410 0002 3807 6529

Mr. Tom Tunnicliff
Environmental Business Manager
BP Products North America Inc.
301 Evans Avenue
Wood River, Illinois 62095

Re: 1191150001 -- Madison County
BP Products North America Inc. (BP) / Main Plant
ILD980700967
Log No. B-147R
RCRA Permit – Administrative Record
Permit Approval

Dear Mr. Tunnicliff:

Enclosed is a final RCRA Part B permit for Corrective Action. The final permit is based on the administrative record contained in the Illinois EPA's files. The contents of the administrative record are described in 35 Ill. Adm. Code Section 705.144.

This renewal permit constitutes approval of two closure by removal determination requests submitted in November of 2002 and April of 2005. This approval formally removes two hazardous waste management units (identified as the North Cell of Spray Pond 1 and the South Flare Pit) from post-closure permitting requirements. Since these were the only remaining hazardous waste management units at the site, the permit will now focus on corrective action activities remaining at the site.

The final permit contains several changes from the draft permit that was noticed on September 27, 2010. A List of Changes in the final permit is attached. Also attached are Illinois EPA's responses to comments, submitted by the Permittee. No public comments were received on the draft permit.

Within 35 days after the notification of a final permit decision, the permittee may petition the Illinois Pollution Control Board to contest the issuance of the permit. The petition shall include a statement of the reasons supporting a review, including demonstration that any issues raised in the petition were previously raised during the public comment period. In all other aspects, the

petition shall be in accordance with the requirements for permit appeals set forth in 35 Ill. Adm. Code Part 105. Nothing in this paragraph is intended to restrict appeal rights under Section 40(b) of the Environmental Protection Act (Title 35 Ill. Adm. Code 705.212(a)).

Work required by this letter, your submittal or the regulations may be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. This letter does not relieve anyone from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

If you have any questions regarding this permit, please contact Mark L. Crites at 217-524-3269.

Sincerely,

Stephen F. Nightingale
Manager, Permit Section
Bureau of Land

SFN:MLC:mls/101423s.doc
copies MLC KEN JOHN TOM AMS
cc: USEPA Region V

Attachments: RCRA Unit Response to Comments
CAU Response to Comments
GAU Response to Comments
List of Changes
Final Permit

RCRA Unit Response to Facility Comments Log No. B-147R

This document deals with comments on the draft renewal permit not related to corrective action or groundwater issues. Response documents dealing with corrective action (Section IV and Attachments A and B) and groundwater issues (Section V) will be provided separately. Comments were provided by URS Corporation on behalf of BP Products of North America, Inc. Below is a summary of each comment, along with the Agency's response to each comment.

Cover Page, Title Page, and Table of Contents

Comment: Revise the title on the permit cover page and permit title page to read "RCRA Part B Permit for Corrective Action".

Response: These changes have been made as suggested.

Comment: Revise the Table of Contents so that the heading for Section IV reads "Corrective Action".

Response: This change has been made as suggested.

Comment: Revise the Table of Contents to reflect that Section IV has 22 pages.

Response: This change has been made as suggested.

Comment: Revise the Table of Contents to include Attachments IV-A and IV-B.

Response: This change has been made as suggested.

Section I

Comment: Correct the letter date in the third paragraph, second sentence of Section I.A from May 29, 2007 to January 7, 2008.

Response: This change has been made as suggested.

Comment: Remove Condition I.B.3. The referenced Standard Conditions (III.32 through III.36) pertain to post-closure care of regulated units.

Response: It is BOL Permit Section's policy not to modify Standard Conditions from those contained in the boilerplate documents. Currently, the two approved boilerplate documents available for use in Part B permits are one designed for operating permits, and one designed for post-closure care permits. To date, no boilerplate document specific to permits dealing solely with corrective action has been developed. Therefore, the boilerplate document

designed for post-closure care permits was used because it was deemed to contain the least number of extraneous conditions. Condition I.B.3 was included to indicate that the remaining extraneous conditions contained in Section III (Conditions III.32 through III.36) are not applicable to this facility since post-closure care is not being conducted. If condition I.B.3 were removed, then those conditions would be reactivated in the permit and create confusion and unnecessary regulatory burden for the Permittee. As noted in Condition III.4 (and 35 Ill. Adm. Code 702.146), when a standard condition conflicts with a special condition (conditions not in Section III), the special condition prevails.

Comment: Revise Section I.C outline from C.a, C.b, . . . to C.1, C.2, . . . to be consistent with other sections of the permit.

Response: This change has been made as suggested.

Comment: Revise the first paragraph of Section I.D to replace "can approve" with "hereby approves".

Response: This change has been made as suggested.

Comment: Revise Condition I.D.3 to indicate Sections IV.C.2 and IV.C.3 insteasd of Attachment IV C.

Response: This change has been made as suggested.

Section II: Approved Permit Application Identification

Comment: Add "Shallow Investigation of South Flare Pit – Additional Information dated June 17, 2010" after Letter I.

Response: This document was included in the administrative record and in the repository copy of the application, but was inadvertently not listed in Section II. Since it is additional information to Item II.I, a reference to it has been added there. Note that the cover letter for this submittal was dated June 16, 2010, not June 17, 2010. The correct date of June 16 is listed in Item II.I.

Comment: Add "Response to Illinois EPA April 26 and 27, 2010 RCRA Inspection dated July 9, 2010" after Item II.J.

Response: As noted by the commenter, this document was submitted for the Riverfront permit, but not for the Main Plant permit. As such, it was not included as a part of the administrative record or repository for the Main Plant permit. Illinois EPA agrees that this document is necessary and

should be incorporated as a part of the approved permit application. However, it was not properly public noticed as part of the draft permit. Please resubmit this document in the form of a permit modification request to the Main Plant permit.

Comment: Correct the letter references for Section II consistent with the above two comments.

Response: The lettering of Section II was not affected by Illinois EPAs response to the referenced comments.

Section III: Standard Conditions

Comment: Remove Standard Conditions 15, 26, 29, and 32-36 from Section III. Renumber Section III to account for this removal.

Response: As noted previously, it is BOL Permit Section's policy not to modify Standard Conditions from those contained in the boilerplate documents. Currently, the two approved boilerplate documents available for use in Part B permits are one designed for operating permits, and one designed for post-closure care permits. To date, no boilerplate document specific to permits dealing solely with corrective action has been developed. Therefore, the boilerplate document designed for post-closure care permits was used because it was deemed to contain the least number of extraneous conditions. Condition I.B.3 was included to indicate that the remaining extraneous conditions contained in Section III are not applicable to this facility since post-closure care is not being conducted. Illinois EPA agrees that Standard Conditions 15; 26.a, b, and d; 29; and 32-36 are not applicable to this facility. However, because Condition IV.c.2.e.vi requires certain information to be kept in the facility Operating Record. Illinois EPA believes it is necessary to retain Standard Condition 26.c.1 Therefore, Condition I.B.3 has been revised to indicate that Standard Conditions 15; 26.a, b, and d; and 29 are not applicable. Condition I.B.3 already indicated that Standard Conditions 32 through 36 are not applicable.

Section VI: Reporting and Notification Requirements

Comment: The conditions referenced under Section IV are from Subsection I, not Subsection H.

Response: This change has been made as suggested.

Comment: Remove the reference to Condition V.I.5 based on the requested revision to Condition V.I.3.

Response: Condition V.I.5 is not being removed. Therefore, this requirement remains.

Comment: Revise the due date in the reference to Condition V.I.6 to "Annually (January 15)" to agree with the actual condition.

Response: The due-date reference has been revised to the second semi-annual event (January 15).

Comment: Revise the Submittal column for Condition V.I.7 to replace "I" with "in".

Response: This change has been made as suggested.

Comment: Revise the Due Date column for Condition V.I.7 to "Annually (July 15)".

Response: This change has been made as suggested.

Comment: Revise the Due Date column for Condition V.I.14 to "Annually (July 15)".

Response: Condition V.I.14 has not been revised. Therefore, the requirement remains the same.

Comment: Correct the references for conditions V.I.5 through V.I.15 consistent with the requested revisions.

Response: Condition V.I.5 has not been removed. Therefore, the references have not been revised.

Corrective Action Unit Response to Facility Comments Log No. B-147R

Section IV : Corrective Action

***BP Comment:** Page IV-1 of Section IV. A Introduction No. 1

Please revise the first sentence to state, "to protect human health and the environment from ~~all~~ release from ~~all~~ recognized environmental conditions at the BP- Main plant facility in Wood River, Illinois; a former oil refinery".

IEPA Response: The proposed revisions are acceptable. This sentence can be revised to delete the word "all" and read:

..."to protect human health and the environment from release from recognized environmental conditions at the BP- Main plant facility in Wood River, Illinois; a former oil refinery".

***BP Comment:** Page IV-1 of Section IV. A. Introduction, No 4.

Please revise the second sentence to state, "BP has ~~subsequently pursued~~ since accomplished closure by ~~removed~~ removal ~~determinations~~ for these two units (referred to as the North Cell Spray Pond 1 and the South Flare Pit)."

IEPA Response: The proposed revisions are acceptable. This sentence may be revised to read:

"BP has since accomplished closure by removal for these two units (referred to as the North Cell Spray Pond 1 and the South Flare Pit)."

***BP Comment:** Page IV-2 of Section IV. A, Introduction, No. 7

Please revise the paragraph to state, "Investigation and remediation efforts carried out as part of the corrective action program implemented in accordance with this permit must meet the requirements of: (1) this permit and the regulations cited herein; ~~(2) Illinois EPA and USEPA guidance documents regulation regarding such efforts;~~ and (~~3~~ 2) Illinois EPA letters regarding such activities." *BP does not believe that adherence to guidance documents should be required under the Permit. Guidance documents are not as specific as regulations, are subject to interpretation, and may be revised over time, resulting in multiple editions.*

IEPA Response: The proposed revisions are acceptable. This sentence may be revised to read:

"Investigation and remediation efforts carried out as part of the corrective action program implemented in accordance with this permit must meet the requirements of: (1) this permit and the regulations cited herein; and (2) Illinois EPA letters regarding such activities."

***BP Comment:** Page IV-4 of Section IV. B, Corrective Action Program, No. 4

Please revise No. 4 as follows: "the Permittee plans to complete corrective action for the soil and perched groundwater at the facility through the land reuse investigation remediation process. The goal in following this process is to obtain a no further action (NFA) determination for a given area by addressing ~~all~~ recognized environmental conditions in that area. If the Permittee determines that redevelopment is not likely to occur in a given area, the Permittee will follow the corrective action process only for the SWMUs and PRSs in that area. If the potential for redevelopment of the area becomes viable in the future, the Permittee would pursue an NFA determination for the entire area (including RECs) at that time. The general process for investigation/remediation of each area is as follows:"

IEPA Response: The proposed revisions are acceptable. This sentence may be revised accordingly:

"the Permittee plans to complete corrective action for the soil and perched groundwater at the facility through the land reuse investigation remediation process. The goal in following this process is to obtain a no further action (NFA) determination for a given area by addressing recognized environmental conditions in that area. If the Permittee determines that redevelopment is not likely to occur in a given area, the Permittee will follow the corrective action process only for the SWMUs and PRSs in that area. If the potential for redevelopment of the area becomes viable in the future, the Permittee would pursue an NFA determination for the entire area (including RECs) at that time. The general process for investigation/remediation of each area is as follows:"

***BP Comment:** Page IV-5 of Section IV. B., Corrective Action Program, No. 4.h

Please delete Section IV. B. 4.h as the paragraph is a duplicate of Section IV.B.4.g. Please renumber Condition IV B. 4 i. to account for this requested deletion.

IEPA Response: The proposed revision is acceptable as this paragraph is a duplicate. This sentence may be renumbered to account for this requested deletion.

***BP Comment:** Page IV-5 of Section IV. B., Corrective Action Program, No. 5

Please revise the first sentence to state, "the investigation efforts conducted at each area must be sufficient to characterize contamination associated with the ~~all~~ identified recognized environmental conditions present in the area."

IEPA Response: The proposed revisions are acceptable. This sentence may be revised to delete the word "all" and read:

"the investigation efforts conducted at each area must be sufficient to characterize contamination associated with the identified recognized environmental conditions present in the area."

***BP Comment:** Page IV-5 through IV-8 of Section IV. B., Corrective Action Program

Please revise " No's 4 – 8" as "No's 5-9". Number 4 is referenced twice in Section IV.B.

IEPA Response: The proposed revision is acceptable as this number is a duplicate. " No's 4 – 8" may be revised as "No's 5-9".

***BP Comment:** Page IV-6 of Section IV. B., Corrective Action Program, No. 6, Table.

Please revise Accomplishments as of September 2010 Table column for Area 3 to state, " Inv. Report submitted December 22, 2006; additional information ~~was~~ submitted July 12, 2007 and February 21, 2008."

IEPA Response: The proposed revisions are acceptable. This sentence may be revised to incorporate the additional date and will read:

" Inv. Report submitted December 22, 2006; additional information submitted July 12, 2007 and February 21, 2008."

***BP Comment:** Page IV-6 of Section IV. B., Corrective Action Program, No. 6 Table.

Please revise Accomplishments as of September 2010 Table column for Area 5 to state, " Inv. Report submitted ~~March 7, 2008,~~ December 22, 2006; additional information submitted July 12, 2007, November 20, 2007, March 7, 2008 and October 24, 2008. IEPA approved the Inv. Report on ~~February 24, 2010~~ January 30, 2009. Perched groundwater wells were installed in December 2009".

IEPA Response: The proposed revisions are acceptable to incorporate and correct dates and data submitted regarding Area 5. This sentence may be revised accordingly:

" Inv. Report submitted December 22, 2006; additional information submitted July 12, 2007, November 20, 2007, March 7, 2008 and October 24, 2008. IEPA approved the Inv. Report on January 30, 2009. Perched groundwater wells were installed in December 2009".

***BP Comment:** Page IV-6 of Section IV. B., Corrective Action Program, No. 6, Table.

Please revise Accomplishments as of September 2010 Table column for Area 6 to state, "Inv. Report submitted December 22, 2006; additional information submitted July 12, 2007, ~~and~~ February 21, 2008 and January 8, 2009.

IEPA Response: The proposed revisions are acceptable. This sentence may be revised to incorporate additional data submittals and should read:

"Inv. Report submitted December 22, 2006; additional information submitted July 12, 2007, February 21, 2008 and January 8, 2009.

***BP Comment:** Page IV-7 of Section IV. B., Corrective Action Program, No. 6, Table.

Please revise Accomplishments as of September 2010 table column for Area 8 to state, "Inv. Report submitted ~~June 6, 2008~~ June 2, 2008."

IEPA Response: The proposed revision is acceptable. This sentence may be revised to correct this submittal date and should read:

"Inv. Report submitted June 2, 2008."

***BP Comment:** Page IV-7 of Section IV. B., Corrective Action Program No. 6, Table.

Please revise Accomplishments as of September 2010 Table column for Area 10 to state, IEPA e-mailed comments regarding this report on June 16, 2009 and October 7, 2009."

IEPA Response: The proposed revision is acceptable. This sentence may be revised to add the additional date that comments were e-mailed and should read:

IEPA e-mailed comments regarding report on June 16, 2009 and October 7, 2009."

***BP Comment:** Page IV-7 of Section IV. B., Corrective Action Program, No. 6, Table.

Please revise Accomplishments as of September 2010 Table column of Area 12 to state, "Submit CCR/IW by ~~April 1, 2010~~ April 1, 2015." *BP requested an extension for submittal for the Current Conditions Report/Characterization Work Plan for Area 12 in the Fourth Quarter 2009 RFI Report.*

IEPA Response: The proposed revision is acceptable. This sentence may be revised to incorporate the extension date for the Area 12 Report.

***BP Comment:** Page IV-9 of Section IV. B., Corrective Action Program, No. 8.h.

Please change the reference for "OSCA" to" OSHA".

IEPA Response: The proposed revision is acceptable. This sentence may be revised to incorporate this correction and should read: OSHA instead of OSCA.

***BP Comment:** Page IV-10 of Section IV. C., RCRA Closure, RCRA Post-Closure and RCRA Corrective Action Requirements for the North Cell Spray Pond 1 and South Flare Pit, No. 1.b.(1).

Please provide clarification for the third sentence as it is not clear what the Illinois EPA is requesting in Section IV.C.1.b (1). No Attachment IV-C was included in the September 27, 2010 draft Permit.

IEPA Response: Clarification has been provided. The Attachment Section IV-C regarding South Flare Pit Requirements in Attachment A to this memo. This Attachment Section IV-C must be incorporated into the revised document.

***BP Comment:** Page IV-12 of Section IV. C., RCRA Closure, RCRA Post-Closure and RCRA Corrective Action Requirements for the North Cell Spray Pond 1 and South Flare Pit, No. 2.e.(iv).

Please revise the first sentence of the paragraph to state, " Soils that are considered not contaminated, as determined by field screening or laboratory results, may be reused as clean fill in other areas of the former BP Refinery Main Plant Facility ~~that have not been investigated for redevelopment~~."

BP believes that if soil is considered non-contaminated in accordance with the definition provided in condition IV. C.2.e.iii, that soil can be used as clean fill in areas that have not been investigated as well as those that have been investigated at the Main Plant facility.

IEPA Response: The proposed revision is acceptable. Soil that is considered not contaminated may be used in areas that have been investigated as well as area that have not.

***BP Comment:** Page IV-16 of Section IV. D, Parceling, No. 11.

Please remove No. 11 as the Main Plant facility does not have any units at the facility that are former hazardous waste management units closed as landfills.

IEPA Response: The proposed revision is acceptable. This sentence may be revised to delete Condition No. 11. as this is a true statement.

Attachment IV-B of Section IV: Corrective Action

***BP Comment Page:** IV-B-8, Attachment IV-B Summary of Corrective Action Submittals,

Please update the status for CA-101 – Shallow investigation of South Flare Pit from "received March 19, 2010 and additional information June 17, 2010" *to* "approved September 27, 2010 in the draft Permit".

IEPA Response: The proposed revision is acceptable. This status of this submittal should be updated.

Groundwater Assistance Unit Response to Facility Comments Log No. B-147R

Section V : Groundwater Corrective Action Program

1. BP Comment:

The facility requests that sampling requirements not be increased to quarterly sampling at all thirty-six (36) GMZ Boundary Wells. Instead, the facility requests that semi-annual sampling be conducted at nineteen (19) of those wells, and quarterly sampling for one year at the remaining seventeen (17) wells which lack eight (8) quarters of data needed to perform trend analyses. After one additional year of quarterly sampling, the remaining seventeen (17) wells will have an adequate data set to perform trend analysis. This request is based on the trend analysis currently performed at GMZ Boundary Wells. The trend analysis indicates that an upwards trend was only identified at the following wells, and the concentrations do not exceed permit concentration limits.

Well G004 for barium	Well G055 for barium
Well G084 for barium	Well G-5B for barium and cobalt
Well G74L for barium	Well G75L for barium and naphthalene

The facility believes that quarterly verification of hydraulic control and semi-annual groundwater monitoring is adequate, and the following changes to the Draft Renewal Permit are requested:

a. Conduct semi-annual sampling at the following nineteen (19) GMZ Boundary Wells: G084, G062, G073, R063, G067, G068, G69R, G75L, G76L, G74L, G055, G-5B, G045, G085, G04R, RG36, G302, G303, G32R.

b. Conduct quarterly sampling for one year at the following seventeen (17) GMZ Boundary Wells to establish a total of eight data points for each constituent: G005, G006, G008, G021, G023, G059, G061, G078, G079, G111, G112, G35, G37, G91, G92, H-31B, and G93L. After one year, BP proposes to collect samples from these seventeen (17) wells semi-annually.

c. BP requests that Conditions V.D.1 and V.F.1.b be modified to reflect these changes.

IEPA Response:

The Illinois EPA can approve the above requested changes to Condition V.D.1; therefore, semi-annual sampling is now required at the nineteen (19) GMZ Boundary Wells where trend analysis is performed. In addition, the remaining seventeen (17) GMZ Boundary Wells must be sampled quarterly for one year to establish a minimum of eight (8) total data points for each constituent is approved.

1. Conditions V.D.1 now contains a superscript "Q" to identify the GMZ Boundary Wells: G005, G006, G008, G021, G023, G059, G061, G078, G079, G111, G112, G35, G37, G91, G92, H-31B, and G93L, to designate those wells for quarterly

groundwater monitoring. A notation following the well construction information table in Condition V.D.1 defines the notation; "Q = sample quarterly for a total of one (1) year".

2. Modifications to Condition V.F.1.b are outlined in the response to BP Comment 9 .

2. BP Comment:

The facility requests well construction details listed in the Well Locations and Construction section in Condition V.D.1 be corrected to match Table 3-1 of the Permit Renewal Application, Volume 3, dated August 24, 2010. The facility outlines minor changes necessary to reflect the most recent well survey details.

IEPA Response:

The Illinois EPA can approve the requested corrections the well construction details listed in the Well Locations and Construction section in Condition V.D.1. Condition V.D.1 has been corrected to match Table 3-1 the Permit Renewal Application, Volume 3, dated August 24, 2010. No change was required to perched well G83S, as it has been removed from the Groundwater Corrective Action Monitoring Program (see BP Comment 4 below). The following revisions have been incorporated into Condition V.D.1:

IEPA Well No.	Facility Well No.	Well Depth (Ft-bgs)	Well Depth Elevation (Ft MSL)	Well Screen Interval (Ft MSL)
RG36	H36R	58.1	387.17	404.20-389.50
G75L	G-36	60.0	386.63	406.63-386.63
G008	B-8D	50.0	377.94	397.94-377.94
G016	C-6	49.5	381.03	416.03-381.03
G83L	H-3	52.5	375.13	400.13-380.13
G85L	H-5	64.0	376.31	414.31-381.31
G89L	H-9	53.5	376.43	401.43-381.43
G97L	H-17	58.0	377.12	402.12-382.12
G612	RC-12	73.0	368.21	395.21-373.21
G629	RC-H-29	57.6	379.88	410.48-379.88

3. BP Comment:

The facility requests that Observation Wells, G103 through G109, R110, G66D, R66L, G88D, and G88L, be removed from Condition V.D.1. These wells are Observation Wells already identified in the facility's Riverfront Property RCRA Part B Permit dated July 28, 2010.

IEPA Response:

The Illinois EPA can approve the request to remove the Observation Wells G103 through G109, R110, G66D, R66L, G88D, and G88L, as they are part of the Groundwater Corrective Action Monitoring Program within the neighboring Riverfront Property's RCRA Permit. Therefore, these wells have been removed from Condition V.D.1.

4. BP Comment:

The facility requests that a total of twelve (12) wells screened in the perched zone be removed from Condition V.D.1. The subject submittal requests the following eleven (11) perched wells be removed: G02S, G05S, G06S, G08S, G32S, G33S, G37S, G38S, G83S, G91S, and G93. *[One (1) additional perched well, G42S, was also requested for removal by Laurence Verkoulen via telephone in November 2010, as that perched well G42S was intended to be included in the original request].* BP plans to evaluate perched groundwater at the Main Plant Parcels as part of corrective action in accordance with Condition IV.B.4 of the Renewal Permit.

IEPA Response:

The Illinois EPA can approve the request to remove the perched monitoring wells G02S, G05S, G06S, G08S, G32S, G33S, G37S, G38S, G42S, G83S, G91S, and G93 from the Groundwater Corrective Action Monitoring Program and Condition V.D.1; therefore, Condition V.D.1 has been modified. The facility must continue to utilize these perched wells during groundwater evaluations at the Main Plant Parcels, conducted in accordance with corrective action investigations required by Section IV: Corrective Action of the Renewal Permit.

5. BP Comment:

The facility requests that monitoring well G303 be removed from the Observation Well list in Condition V.D.1, as it is already listed as a GMZ Boundary Well in Condition V.D.1.

IEPA Response:

The Illinois EPA can approve the request to remove Observation Well G303 from the "Observation Wells" portion of Condition V.D.1, as it is already listed as a GMZ Boundary Well in Condition V.D.1. Condition V.D.1 has been modified accordingly.

6. BP Comment:

The facility requests that references to Permit Renewal Attachments in Conditions V.D.3 and V.D.5 be changed from Attachments B-1 through B-4 to state "Attachment A". The requested changes are consistent with the Permit Renewal.

IEPA Response:

The Illinois EPA can change the references in Conditions V.D.3 and V.D. 5 to Attachments B-1, B-2, B-3, and B-4, respectively, to "Attachment B".

7. **BP Comment:**

The facility requests that the Illinois EPA delete Condition V.E.2 and incorporate the constituents from V.E.2 into the constituent list in Condition V.E.1 for routine groundwater sampling. The facility believes that a single list of constituents to be tested at each well will reduce the possibility of laboratory reporting errors.

IEPA Response:

The Illinois EPA can approve the request to delete Condition V.E.2 and add the constituents listed below to Condition V.E.1 for routine groundwater sampling. The corresponding constituent storet numbers and subject 35 Ill. Adm. Code Part 620, Class I, concentration limits have been added. The numbering for conditions within Section V.E of the RCRA Permit has been modified to reflect the removal of Condition V.E.2.

Hazardous Constituents	Storet No.	Concentration Limits (mg/L)
Volatiles		
Chlorobenzene	34301	0.1
Chloroform	32106	0.0002
Styrene	77128	0.1
Semi-Volatile Base/Neutral Extractable Compounds		
Butyl benzyl phthalate	34292	1.4
Dimethyl phthalate	34341	--
Pyridine	77045	0.007
2-Methylphenol (o-cresol)	77152	0.35
2,4-Dinitrophenol	34616	0.014
4-Nitrophenol	34646	--

8. **BP Comment:**

The facility requests that the Illinois EPA delete the reference, "(post-closure period)", within Condition V.E.4.

IEPA Response:

The Illinois EPA cannot approve the request to delete the reference, "(post-closure period)", within Condition V.E.4. The Solid Waste Management Units (SWMUs) are subject to a post-closure period.

9. **BP Comment:**

The facility requests to modify Condition V.F.1.b by adding an asterisk to the seventeen (17) GMZ Wells to be sampled quarterly. In addition, BP requests that a note explaining the asterisk be included that states: "* denotes GMZ Boundary Wells that will be sampled quarterly for one year. After one year, these GMZ Boundary Wells will be sampled on a semi-annual basis."

IEPA Response:

The Illinois EPA concurs that notation is needed to identify the GMZ wells requiring quarterly sampling, and Condition V.F.1.b has been modified to reflect the approval for quarterly sampling at select GMZ Boundary Wells for one (1) year, as follows:

> "GMZ Boundary Wells must be sampled quarterly or semi-annually. as identified in Condition V.D.1. The GMZ Boundary Wells that require quarterly sampling will be sampled quarterly for one (1) year. After one (1) year, these GMZ Boundary Wells will be sampled on a semi-annual basis."

10. BP Comment:

The facility requests to add well H-31B to the list of Northern Boundary GMZ Wells in Condition V.F.2.a.

IEPA Response:

The Illinois EPA can approve the request to add well H-31B to the list of Northern Boundary GMZ Wells in Condition V.F.2.a. Condition V.F.2.a has been modified accordingly.

11. BP Comment:

The facility requests to revise Condition V.F.2.c.iv to state; "The results of the statistical evaluation shall be included with the second semi-annual groundwater monitoring report required by Condition V.I.2".

IEPA Response:

The Illinois EPA cannot approve the request to revise Condition V.F.2.c.iv. Condition V.I.2 is a schedule, while Condition V.I.14 requires a report to be submitted.

12. BP Comment:

The facility requests that the reference to "groundwater withdrawal wells" in Condition V.F.5.a be revised to "COD wells".

IEPA Response:

The Illinois EPA can approve the request to change the reference from "groundwater withdrawal wells" in Condition V.F.5.a to "COD wells". Condition V.F.5.a has been modified accordingly.

13. BP Comment:

The facility requests the word "aquifer" be added to complete the reference to the uppermost aquifer in Condition V.F.7.

IEPA Response:

The Illinois EPA can approve the request to add word "aquifer" to Condition V.F.7 to complete the reference to the uppermost aquifer, as follows:

> "The groundwater quality in the uppermost aquifer shall be monitored on a quarterly or semi-annual basis at each of the wells identified in Condition V.D.1, and submitted to the Illinois EPA semi-annually, as identified in Condition V.I.2."

14. BP Comment:

The facility requests that the Illinois EPA correct the reference in Condition V.G.1 from "Condition V.J.3" to "Condition V.F.1".

IEPA Response:

The Illinois EPA cannot approve the request to change the reference in Condition V.G.1 from "Condition V.J.3" to "Condition V.F.1. However, the reference has been corrected from Condition V.J.3 to Condition V.I.3.

15. BP Comment:

The facility requests that the Illinois EPA correct the reference in Condition V.G.2 from "Condition V.J.9" to "Condition V.I.9".

IEPA Response:

The Illinois EPA can approve the request to change the reference in Condition V.G.2 has been changed from "Condition V.J.9" to "Condition V.I.9". The Condition has been modified accordingly.

16. BP Comment:

The facility requests to revise Condition V.G.3 to require the collection of groundwater elevations during the "second quarter" instead of during the "first semi-annual" sampling event.

IEPA Response:

The Illinois EPA can approve the request to change the reference in Condition V.G.3 has been changed from "first semi-annual" to "second quarter" sampling event. The Condition has been modified accordingly.

17. BP Comment:

The facility requests that the Illinois EPA correct the reference in Condition V.I.3 from "Condition V.G.1" to "Condition V.F.5".

IEPA Response:

The Illinois EPA cannot approve the request to correct the reference in Condition V.I.3 from "Condition V.G.1" to "Condition V.F.5". The reference to Condition V.G.1 is accurate.

18. BP Comment:

The facility requests that the Illinois EPA delete Condition V.I.5, based on their request in Number 1 above, which references Condition V.F.5. Consequently, the facility requests renumbering conditions based on its deletion.

IEPA Response:

The Illinois EPA cannot approve the request to delete Condition V.I.5. Condition V.I.5 is related to reporting, not collection of gradient control measurements. Consequently, the request for renumbering conditions based on its deletion is not required.

19. BP Comment:

The facility requests that Condition V.I.6 be revised to add the language "(January 15)" at the end of the condition.

IEPA Response:

The Illinois EPA can approve the request to add the language "(January 15)" at the end of the Condition V.I.6. The Condition has been modified accordingly.

20. BP Comment:

The facility requests that the Illinois EPA correct the reference in Condition V.I.11 from "Attachment B-5" to "Attachment A".

IEPA Response:

The Illinois EPA can change the reference in Condition V.I.11 from "Attachment B-5" to "Attachment B". The Condition has been modified accordingly.

21. BP Comment:

The facility requests the Illinois EPA revise Condition V.I.14 to require submit a written report annually by July 15 of each year, instead of semi-annually, in accordance with the schedule found in Condition V.I.2.

IEPA Response:

The Illinois EPA cannot approve the request to revise Condition V.I.14 to require submittal of a written report annually by July 15 of each year, instead of semi-annually, in accordance with the schedule found in Condition V.I.2.

cc: Karen Nachtwey
Amy Boley

List of Changes from Draft Permit to Final Permit
Log No. B-147R
BP Products North America, Inc. – Main Plant

Cover Page

Revised the title to read "RCRA Part B Permit for Corrective Action".

Title Page

Revised the title to read "RCRA Part B Permit for Corrective Action".

Table of Contents

Revised the heading for Section IV to read "Corrective Action".

Revised to indicate that Section IV has 22 pages.

Revised to include Attachments IV-A and IV-B.

Section I: General

Corrected the letter date in the third paragraph, second sentence to January 7, 2008.

Revised Condition I.B.3.

Revised the outline format of Section I.C.

Revised the first paragraph of Section I.D to read "hereby approves".

Revised Condition I.D.c (now I.D.3) to indicate Sections IV.C.2 and IV.C.3.

Added Condition I.G 39i Certification, as such certification is required of all RCRA permits.

Section II: Approved Permit Application Identification

Added a reference to an additional submittal dated June 16, 2010 to Item II.I

Section IV: Corrective Action

Removed the word "all" from the first sentence of Condition IV.A.1

Revised the second sentence of Condition IV.A.4.

Revised Condition IV.A.7.

Revised Condition IV.B.4.

Deleted Condition IV.B.4.h.

Revised the first sentence of Condition IV.B.5.

Revised the numbering of Condition IV.B.

Revised the table in Condition IV.B.6.

Revised condition IV.B.8.h to reference "OSHA".

Revised the third sentence of Condition IV.C.1.b.

Revised Condition IV.C.2.e(iv).

Deleted Condition IV.D.11.

Attachment IV-B: Summary of Corrective Action Submittals

Updated the status of CA-101.

Section V: Groundwater Corrective Action Program

Revised Condition V.D.1.

Revised Condition V.D.3 to correct references to Attachment A.

Deleted Condition V.D.2 and added constituents to the list contained in Condition V.E.1.

Modified Condition V.F.b.1.

Modified Condition V.F.2.a to add well H-31B to the list of Northern Boundary GMZ Wells.

Modified Condition V.F.5.a to refer to "COD Wells".

Added the word "aquifer" to Condition V.F.7.

Corrected the reference in Condition V.G 1 to Condition V.I.3.

Corrected the reference in Condition V.G.2 to Condition V.I.9.

Revised Condition V.G.3 to require collection of groundwater elevations during the second quarter.

Added "January 15" to the end of Condition V.I.6.

Corrected the reference in Condition V.I.11 to Attachment A.

Section VI: Reporting and Notification Requirements

Corrected the references under section IV to Subsection I, not Subsection H.

Revised the due date reference for Condition V.I.6.

Revised the submittal column for Condtion V.I.7.

Revised the due date column for Condition V.I.7.

Revised the due date column for Condition V.I.14.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 • (217) 782-2829
James R. Thompson Center, 100 West Randolph, Suite 11-300, Chicago, IL 60601 • (312) 814-6026

PAT QUINN, GOVERNOR **DOUGLAS P. SCOTT**, DIRECTOR

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

RCRA PART B PERMIT FOR CORRECTIVE ACTION

IEPA 1191150001 -- Madison County
USEPA ILD 980700967
BP Products North America, Inc./Main Plant
Log No. B-147R
RCRA -- Part B - Administrative Record

Issue Date: March 4, 2011
Effective Date: April 8, 2011
Expiration Date: April 8, 2021
Modification Date:

Mr. Tom Tunnicliff
Environmental Business Manager
BP Products North America Inc.
301 Evans Avenue
Post Office Box 167
Wood River, Illinois 62095-0167

A Part B permit for Corrective Action is hereby granted pursuant to the Resource Conservation and Recovery Act, Illinois Environmental Protection Act, and Title 35 Illinois Administrative Code (I.A.C.) parts 702, 703, 705, and 720 through 729 to BP Products North America, Inc., Main Plant, which is located at 301 Evans Avenue, Wood River, Illinois 62095.

This permit consists of the conditions contained herein (including those in any attachments and appendices) and applicable regulations contained in the Illinois Environmental Protection Act and Title 35 I. A. C. Parts 702, 703, 705 and 720 through 729 in effect on the effective date of this permit. The Environmental Protection Act (415 ILCS 5/l et.seq.) grants the Illinois Environmental Protection Agency the authority to impose conditions on permits which are issued.

This permit is issued based on the information submitted in the approved permit application identified in Section II of this permit and any subsequent amendments. Any inaccuracies found in the information provided in the permit application may be grounds for the termination or modification of this permit (see 35 Ill. Adm. Code 702.187 and 702.186) and potential enforcement action (415 ILCS 5/44(h)).

Should you have any questions regarding groundwater-related issues associated with this final permit, please contact Amy Boley at 217/558-4716; questions regarding corrective action should be addressed to Karen Nachtwey at 217/524-3273; and questions regarding other aspects of this final permit should be directed to Mark Crites at 217/524-3269.

Stephen F. Nightingale, P.E.
Manager, Permit Section
Bureau of Land

SFN:MLC:mls/101423s.doc
WRW MLC BNK AMB KAN

RCRA Part B Permit for Corrective Action

BP Products North America -- Main Plant Facility

Wood River, Illinois

LPC No. 1191150001

ILD980700967

RCRA Part B Permit Log No. 147R

TABLE OF CONTENTS

LIST OF ATTACHMENTS

SECTION I: GENERAL

A. SUMMARY

The BP Products North America (formerly Amoco) Main Plant facility began operations as an oil refinery in 1908. An additives company (Amoco Petroleum Additives Company) was added to the operations in 1957. The refinery portion continued operation until 1981, when dismantling of the refinery began. Refinery dismantling was completed in 1991. The additives operations ceased in 1996, and dismantling of that operation was completed in 2001.

As a part of the oil refinery dismantling operation, two units that previously managed hazardous waste were closed under the then-current RCRA closure rules. These were the North Cell of Spray Pond 1 (NCSP1), a surface impoundment that received reactive sulfide material (U189); and the South Flare Pit (SFP), the location of a former underground storage tank that contained various non-hazardous wastes, as well as wastes bearing hazardous waste characteristics (D001, D002, D003, D008, U189, and U122). Both units were closed with waste in place (the South Flare Pit was then reclassified as a landfill unit), and received their Part B Post-closure Permit on September 30, 1993.

In the late 1990s, and 2000s, BP conducted further investigation and remediation of these units. Closure by removal reports were submitted for NCSP1 in November 2002, and for the SFP in April 2005. A letter from Illinois EPA dated January 7, 2008 granted approval for closure by removal of the NCSP1 pending a Class 3 permit modification request to formally remove the unit from the Part B post-closure permit. This letter also granted approval for the soils portion of the closure by removal determination for the SFP, and requested further work on the groundwater portion for this unit. Subsequently, the Permittee conducted this additional work, and the SFP is now approved for closure by removal. This renewal permit formally removes these units from the permit. Since these were the only two hazardous waste management units at the site, the renewal permit now solely addresses the remaining corrective action at the site.

B. GENERAL CONDITIONS

1. Because no hazardous waste management units remain at the site, several portions of 35 Ill. Adm. Code 724 are not applicable to this permit. This includes the requirements for personnel training (35 Ill. Adm. Code 724, Subpart B), preparedness and prevention (35 Ill. Adm. Code 724, Subpart C), contingency plan and emergency procedures (35 Ill. Adm. Code 724, Subpart D). However, please note that through the application of other laws, regulations, and permit conditions,

some of the concepts covered by these regulations may still apply to corrective action activities conducted at the site.

2. The Permittee currently proposes no corrective action activities that would subject the facility to a RCRA Remedial Action Plan Permit (RCRA RAPP). If plans change in the future such that one or more corrective action activities would subject the facility to a RCRA RAPP, the Permittee must submit a modification request to incorporate requirements for a RAPP into this permit in addition to the plans submitted as a part of a normal corrective action document, as well as certification in accordance with Section 39(i) of the Illinois Environmental Protection Act.

3. Because this permit is for Corrective Action only, Standard Conditions III.26.a, b and d; III.29; and III.32 through III.36 are not applicable to this facility. However, please note that Section IV.E contains special requirements for Corrective Action Cost Estimates which are applicable to this facility.

C. CORRECTIVE ACTION REQUIREMENTS

At the North Cell of Spray Pond 1 (NCP-1) the closure-by-removal requirements of 35 Ill. Adm. Code 703.159 have been met. This determination was made in Illinois EPA's January 7, 2008 letter (Log No. B-147-CA-70) and was based upon the review of the October 17, 2007 "Supplemental Soil Investigation Report for the North Cell of Spray Pond 1" and Illinois EPA's May 29, 2007 (Log No. B-147-M-7) letter to BP. This letter also required a Class 3 modification of the RCRA permit requesting that the NCSP-1 be remove as a regulated unit subject to the requirement of the permit. With the approval of this renewal permit, this requirement has been considered to be met and accordingly, no further action is necessary for the NCSP-1.

At the South Flare Pit (SFP), Condition 2 of Illinois EPA's January 7, 2008 letter (Log No. B-147-CA-70) stated that the review of soil data contained in the October 17, 2007 "Supplemental Soil Investigation Report" determined that the closure of removal demonstration had been met for soil and no further was needed for soil:

1. With the implementation of a Health and Safety Plan Construction Worker in the area of the SFP shown within the hyphenated line by Attachment 1 of the January 7, 2008 letter;

2. With the eventual implementation of an Environmental Land use Control as required by Attachment C of Illinois EPA's May 29, 2007 letter and the conditions set forth in the January 7, 2008 letter;

3. Provided that groundwater issues for the SFP are addressed as outlined by Item 1 thru 4 in Attachment C of Illinois EPA's May 29, 2007 letter (Log No. B- 147-M-7) and B-147-M-1).

Section IV.C of this renewal permit addresses the requirements of Condition C.1 and C.2 referred to above, the remaining corrective action activities that need to be completed at the SFP. An ELUC must be established in accordance with the conditions of Section IV.C of this permit renewal before a No Further Action can be issued for the SFP.

With regard to Condition 2c above, Condition D – Groundwater Requirements below discusses the March 18, 2010 submittal, which has been determined to satisfy with certain conditions and modification, the perched groundwater requirements at the SFP.

D. GROUNDWATER REQUIREMENTS

The Illinois EPA hereby approves the March 18, 2010 submittal for the SFP demonstration to exclude the groundwater ingestion exposure route for perched groundwater (locally encountered groundwater in surficial fill and fine-grained native materials (Cahokia Clay facies)) at the former SFP area.

1. As a result of the perched groundwater route being excluded, the Groundwater Detection Monitoring Program has been removed with the issuance of a Draft RCRA Part B Renewal Permit. The Detection Monitoring Wells G302 and G303 will be designated as GMZ Boundary Wells, and wells G301, G304, G305, G306, and G307 will be designated as Observation Wells to Condition V.D.1 of the Renewal Permit.

2. The facility has satisfied the groundwater requirements of the May 29, 2007 (log Nos. B-147-M-7 and M-13) and September 9, 2008 (Log No. PS08-030) Illinois EPA letters.

3. The facility must satisfy the requirements of Conditions C.2 and C.3 to Section IV.

4. The facility must continue to address groundwater of the uppermost aquifer in accordance with Section V of this Renewal Permit.

E. 39i CERTIFICATION

The permittee shall submit a 39(i) certification and supporting documentation within 30 days after the effective date of this permit and thereafter within 30 days of any of the following events:

a. The owner or operator or officer of the owner or operator, or any employee who has control over operating decisions regarding the facility has violated federal, State, or local laws, regulations, standards, or ordinances in the operation of waste management facilities or sites; or

b. The owner or operator or officer of the owner or operator, or any employee who has control over operating decisions regarding the facility has been convicted in this or another State of any crime which is a felony under the laws of this State, or conviction of a felony in a federal court; or

c. The owner or operator or officer of the owner, or operator, or any employee who has control over operating decisions regarding this facility has committed an act of gross carelessness or incompetence in handling, storing, processing, transporting, or disposing of waste; or

d. A new person is associated with the owner or operator who can sign the application form(s) or who has control over operating decisions regarding the facility, such as corporate officer or a delegated employee.

The certification shall describe the violation(s), convictions, carelessness or incompetence as outlined in a, b, or c above and must include the date that a new person as described in d. above began employment with the applicant.

The 39i certification and supporting documentation shall be submitted to the address specified below:

Illinois Environmental Protection Agency
Bureau of Land #33
39(i) Certification
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

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SECTION II: APPROVED PERMIT APPLICATION IDENTIFICATION

A. Revised Renewal Permit Application dated February 15, 2006, and received by Illinois EPA February 16, 2006. Two volumes.

B. Demonstration regarding SSIs dated December 30, 2008.

C. Demonstration regarding SSIs dated March 23, 2009.

D. Demonstration regarding SSIs dated June 29, 2009.

E. Demonstration regarding SSIs dated September 23, 2009.

F. Demonstration regarding SSIs dated February 5, 2010.

G. Demonstration regarding SSIs dated March 26, 2010.

H. Demonstration regarding SSIs dated June 17, 2010.

I. Shallow Groundwater Investigation of the SFP dated March 18, 2010. Two volumes. Additional information regarding this investigation dated June 16, 2010.

J. RCRA Permit Application Volume 3.

K. Revised Low-Flow Operating Procedure dated December 28, 2007.

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SECTION III: STANDARD CONDITIONS

GENERAL REQUIREMENTS

1. EFFECT OF PERMIT. The existence of a RCRA permit shall not constitute a defense to a violation of the Environmental Protection Act or Subtitle G, except for development, modification or operation without a permit. Issuance of this permit does not convey property rights or any exclusive privilege. Issuance of this permit does not authorize any injury to persons or property or invasion of other private rights, or infringement of state or local law or regulations. (35 Ill. Adm. Code 702.181)

2. PERMIT ACTIONS. This permit may be modified, reissued or revoked for cause as specified in 35 Ill. Adm. Code 703.270 through 703.273 and Section 702.186. The filing of a request by the Permittee for a permit modification or revocation, or a notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition. (35 Ill. Adm. Code 702.146)

3. SEVERABILITY. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby. (35 Ill. Adm. Code 700.107)

4. PERMIT CONDITION CONFLICT. In case of conflict between a special permit condition and a standard condition, the special condition will prevail. (35 Ill. Adm. Code 702.160)

5. DUTY TO COMPLY. The Permittee shall comply with all conditions of this permit except for the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance constitutes a violation of the Environmental Protection Act and is grounds for enforcement action; permit revocation or modification; or for denial of a permit renewal application. (35 Ill. Adm. Code 702.141 and 703.242)

6. DUTY TO REAPPLY. If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee must apply for a new permit at least 180 days before this permit expires, unless permission for a later date has been granted by the Illinois EPA. (35 Ill. Adm. Code 702.142 and 703.125)

7. PERMIT EXPIRATION. This permit and all conditions herein will remain in effect beyond the permit's expiration date if the Permittee has submitted a timely, complete application (see 35 Ill. Adm. Code 703.181-703.209) and through no fault of the Permittee the Illinois EPA has not issued a new permit as set forth in 35 Ill. Adm. Code 702.125.

8. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (35 Ill. Adm. Code 702.143)

9. DUTY TO MITIGATE. In the event of noncompliance with the permit, the permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. (35 Ill. Adm. Code 702.144)

10. PROPER OPERATION AND MAINTENANCE. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory, and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit. (35 Ill. Adm. Code 702.145)

11. DUTY TO PROVIDE INFORMATION. The Permittee shall furnish to the Illinois EPA, within a reasonable time, any relevant information which the Illinois EPA may request to determine whether cause exists for modifying, revoking and reissuing or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Illinois EPA, upon request, copies of records required to be kept by this permit. (35 Ill. Adm. Code 702.148)

12. INSPECTION AND ENTRY. The Permittee shall allow an authorized representative of the Illinois EPA, upon the presentation of credentials and other documents as may be required by law, to:

    a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the appropriate Act, any substances or parameters at any location. (35 Ill. Adm. Code 702.149)

13. MONITORING AND RECORDS. (35 Ill. Adm. Code 702.150)

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste must be the appropriate method from Appendix A of 35 Ill. Adm. Code 721. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, latest versions; Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, latest versions; or an equivalent method as specified in the approved Waste Analysis Plan.

b. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report or application. These periods may be extended by request of the Illinois EPA at any time. The permittee shall maintain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for disposal facilities for the post-closure care period as well.

c. Records of monitoring information shall include:

i. The date(s), exact place, and time of sampling or measurements;

ii. The individual(s) who performed the sampling or measurements;

iii. The date(s) analyses were performed;

iv. The individual(s) who performed the analyses;

v. The analytical technique(s) or method(s) used; and

vi. The result(s) of such analyses. (35 Ill. Adm. Code 702.150)

14. REPORTING PLANNED CHANGES. The permittee shall give written notice to the Illinois EPA as soon as possible of any planned physical alterations or additions to the permitted facility. In general, proposed changes to the facility will need to be submitted to the Illinois EPA as permit modification request that complies with the requirements of 35 Ill. Adm. Code 703.280. (35 Ill. Adm. Codes 702.152(a))

15. CONSTRUCTION CERTIFICATION. For a new hazardous waste management facility, the permittee shall not commence treatment, storage or disposal of hazardous waste; and for a facility being modified the permittee shall not treat, store or dispose of hazardous waste in the modified portion of the facility, until:

a. The permittee has submitted to the Illinois EPA by certified mail or hand delivery a letter signed by the permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the permit; and

b. 1. The Illinois EPA has inspected the modified or newly constructed facility and finds it is in compliance with the condition of the permit; or

2. If, within 15 days of the date of submission of the letter in paragraph (a), the permittee has not received notice from the Illinois EPA of its intent to inspect, prior inspection is waived and the permittee may commence treatment, storage or disposal of hazardous waste. (35 Ill. Adm. Code 703.247)

16. ANTICIPATED NONCOMPLIANCE. The Permittee shall give advanced written notice to the Illinois EPA of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements, regulations, or the Act. (35 Ill. Adm. Code 702.152(b))

17. TRANSFER OF PERMITS. This permit may not be transferred by the permittee to a new owner or operator unless the permit has been modified or reissued pursuant to 35 Ill. Adm. Code 703.260(b) or 703.272. Changes in the ownership or operational control of a facility must be made as a Class 1 modification with the prior written approval of the Illinois

EPA. The new owner or operator shall submit a revised permit application no later than 90 days prior to the scheduled change. (35 Ill. Adm. Code 703.260)

18. MONITORING REPORTS. Monitoring results shall be reported at the intervals specified in the permit. (35 Ill. Adm. Code 702.152(d))

19. COMPLIANCE SCHEDULES. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than specified in 35 Ill. Adm. Code 702.162. (35 Ill. Adm. Code 702.152(e))

20. TWENTY-FOUR HOUR REPORTING.

a. The Permittee shall report to the Illinois EPA any noncompliance with the permit which may endanger health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the following circumstances. This report shall include the following:

i. Information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies.

ii. Information concerning the release or discharge of any hazardous waste or of a fire or explosion at the HWM facility, which could threaten the environment or human health outside the facility.

b. The description of the occurrence and its cause shall include:

i. Name, address, and telephone number of the owner or operator;

ii. Name, address, and telephone number of the facility;

iii. Date, time, and type of incident;

iv. Name and quantity of material(s) involved;

v. The extent of injuries, if any;

vi. An assessment of actual or potential hazards to the environment and human health outside the facility, where applicable; and

vii. Estimated quantity and disposition of recovered material that resulted from the incident.

c. A written submission shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Illinois EPA may waive the five day written notice requirement in favor of a written report within fifteen days. (35 Ill. Adm. Code 702.152(f) and 703.245(b))

21. OTHER NONCOMPLIANCE. The Permittee shall report all instances of noncompliance not otherwise required to be reported under Standard Conditions 14, 15, and 16, at the time monitoring reports, as required by this permit, are submitted. The reports shall contain the information listed in Standard Condition 20. (35 Ill. Adm. Code 702.152(g))

22. OTHER INFORMATION. Where the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Illinois EPA, the Permittee shall promptly submit such facts or information. (35 Ill. Adm. Code 702.152(h))

23. SUBMITTAL OF REPORTS OR OTHER INFORMATION. All written reports or other written information required to be submitted by the terms of this permit shall be sent to:

Illinois Environmental Protection Agency
Bureau of Land
Planning and Reporting Section - #24
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

24. SIGNATORY REQUIREMENT. All permit applications, reports or information submitted to the Illinois EPA shall be signed and certified as required by 35 Ill. Adm. Code 702.126. (35 Ill. Adm. Code 702.151)

25. CONFIDENTIAL INFORMATION. Any claim of confidentiality must be asserted in accordance with 35 Ill. Adm. Code 702.103 and 35 Ill. Adm. Code 161.

26. DOCUMENTS TO BE MAINTAINED AT FACILITY SITE. The Permittee shall maintain at the facility, until post-closure is complete, the following documents and amendments, revisions and modifications to these documents:

    a. Post-closure plan as required by 35 Ill. Adm. Code 724.218(a) and this permit.

    b. Cost estimate for post-closure care as required by 35 Ill. Adm. Code 724.244(d) and this permit.

    c. Operating record as required by 35 Ill. Adm. Code 724.173 and this permit.

    d. Inspection schedules as required by 35 Ill. Adm. Code 724.115(b) and this permit.

GENERAL FACILITY STANDARDS

27. GENERATOR REQUIREMENTS. Any hazardous waste generated at this facility shall be managed in accordance with the generator requirements at 35 Ill. Adm. Code Part 722.

28. SECURITY. The Permittee shall comply with the security provisions of 35 Ill. Adm. Code 724.114(b) and (c).

29. GENERAL INSPECTION REQUIREMENTS. The Permittee shall follow the approved inspection schedule. The Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by 35 Ill. Adm. Code 724.115(c). Records of inspections shall be kept as required by 35 Ill. Adm. Code 724.115(d).

PREPAREDNESS AND PREVENTION

30. DESIGN AND OPERATION OF FACILITY. The Permittee shall maintain and operate the facility to minimize the possibility of fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. (35 Ill. Adm. Code 724.131)

RECORD KEEPING

31. OPERATING RECORD. The Permittee shall maintain a written operating record at the facility in accordance with 35 Ill. Adm. Code 724.173.

POST-CLOSURE

32. CARE AND USE OF PROPERTY. The Permittee shall provide post-closure care for the facility as required by 35 Ill. Adm. Code 724.217 and in accordance with the approved post-closure plan.

33. AMENDMENT TO POST-CLOSURE PLAN. The Permittee must amend the post-closure plan whenever a change in the facility operation plans or facility design affects the post-closure plan or when an unexpected event has occurred which has affected the post-closure plan pursuant to 35 Ill. Adm. Code 724.218(d).

34. COST ESTIMATE FOR POST-CLOSURE. The Permittee's original post-closure cost estimate, prepared in accordance with 35 Ill. Adm. Code 724.244, must be:

    a. Adjusted for inflation either 60 days prior to each anniversary of the date on which the first closure cost estimate was prepared or if using the financial test or corporate guarantee, within 30 days after close of the firm's fiscal year.

    b. Revised whenever there is a change in the facility's post-closure plan increasing the cost of closure.

    c. Kept on record at the facility and updated. (35 Ill. Adm. Code 724.244)

35. FINANCIAL ASSURANCE FOR POST-CLOSURE CARE. The Permittee shall demonstrate compliance with 35 Ill. Adm. Code 724.245 by providing documentation of financial assurance, as required by 35 Ill. Adm. Code 724.251, in at least the amount of the cost estimates required by the previous Permit Condition. Changes in financial assurance mechanisms must be approved by the Agency pursuant to 35 Ill. Adm. Code 724.245.

    Financial assurance documents submitted to Illinois EPA should be directed to the following address:

    Illinois Environmental Protection Agency
    Bureau of Land #24
    Financial Assurance Program
    1021 North Grand Avenue East
    P.O. Box 19276
    Springfield, IL 62794-9276

36. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS. The Permittee shall comply with 35 Ill. Adm. Code 724.248 whenever necessary.

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SECTION IV: CORRECTIVE ACTION

A. INTRODUCTION

1. In accordance with Section 3004 of RCRA and 35 IAC 724.201, the Permittee shall institute such corrective action as necessary to protect human health and the environment from all releases from recognized environmental conditions at the BP-Main Plant facility in Wood River, Illinois; a former oil refinery. This section contains the conditions which must be followed to ensure these requirements are met.

2. The original RCRA permit issued by Illinois EPA for this facility on September 30, 1993 required that the facility conduct corrective action on twenty-one solid waste management units (SWMUs) and nine product release sites (PRSs) (locations where product was known to have been released or where product could have potentially been released). On June 21, 2002, Illinois EPA approved a plan to expand the scope of this corrective action program to include all recognized environmental conditions at the facility. To accomplish this, the facility was broken up into nineteen (19) investigation areas so that corrective action at the facility could be addressed on an area by area basis.

3. The facility has completed a substantial amount of corrective action efforts to date at this facility. This permit summarizes these efforts and describes the corrective action efforts which must still be completed at this facility to ensure the requirement of Section 3004(u) and (v) and 35 Ill. Adm. Code 724.201 are met.

4. One of the investigation areas (Area 18) contains two units that were identified and regulated as hazardous waste management units in the RCRA permit issued to this facility on September 30, 1993. BP has closure by removal for these two units (referred to as the North Cell Spray Pond 1 and the South Flare Pit). This section summarizes the status of these units relative to RCRA closure, RCRA post-closure and RCRA corrective action (it must be noted that hazardous waste management units are a subset of solid waste management units).

5. The Permittee must provide corrective action, as appropriate, for any future releases from SWMUs present at the facility or any SWMUs found during the course of facility operations in the future.

6. The requirements of 35 Ill. Adm. Code, Subtitle G: Waste Disposal and 35 Ill. Adm. Code 620 must be met, as appropriate, in carrying out the corrective action activities at this facility.

7. Investigation and remediation efforts carried out as part of the corrective action program implemented in accordance with this permit must meet the requirements of: (1) this permit and the regulations cited herein; and (2) Illinois EPA letter regarding such activities.

8. Unless there is a desire to modify specific requirements set forth in this Section, information submitted to Illinois EPA regarding the corrective action requirements set forth in this Section is not a request to modify this permit nor subject to the requirements of 35 Ill. Adm. Code 703, Subpart G.

   a. A completed Illinois EPA RCRA Corrective Action Certification form (available on Illinois EPA's internet site (www.epa.state.il)) must accompany all corrective action-related information submitted to Illinois EPA.

   b. To allow for proper review of all corrective action-related information submitted to Illinois EPA, the original and two copies of the information must be submitted.

9. IEPA's final action on the review of all documents submitted by the Permittee regarding corrective action efforts at this facility shall be subject to the appeal provisions of Section 39 of the Illinois Environmental Protection Act.

B. CORRECTIVE ACTION PROGRAM

1. A plan to conduct a Phase I RCRA Facility investigation of the twenty-one SWMUs and nine product release sites (PRSs) of concern as identified in the 1993 permit and listed below was approved by Illinois EPA on September 7, 1994; a report documenting the results of this investigation was approved by Illinois EPA on June 5, 2001.

SWMU No.	SWMU Name
8	Three Leaded Tank Bottom Disposal Area
9	Northeast Sand Pits
12	Southeast Disposal Area
13	API Separator Sludge Landform
14	North Cell/Spray Pond 1
15	Spray Ponds Other Than North Cell/Spray Pond 1
16	Old API Separator
17	Additive Waste Pit
18	DAP Spent Filter Cake Storage Area
21	Former APAC Waste Transfer Area
22	New APAC Waste Transfer Area
23	MAP Spent Filter Cake Storage Area
24	APAC Slop Oil Tank 70
25	APAC Slop Oil Tank 176
26	APAC Slop Oil Tanks 189, 190, 845, and 846
27	APAC Slop Oil Tank 277 Area
30	Korea Tank Form Disposal Area
31	Waste Phenol Accumulation Area
33	South Flare Pit
34	Amoco's Sewer System
36	Liquid Waste Collection Bin

PRS No.	PRS Name
1	Former Tank 228 Dike Area
2	Former Tank 256 Dike Area
3	Waste Oil Leak Area
4	Hydrocarbons on Water Table
5	North Tank Farm
6	East Tank Farm
7	South Tank Farm
8	Korea Tank Farm
9	Gasoline Piping Manifold

2. A Phase II RCRA Facility Investigation workplan for the SWMUs and PRSs mentioned above was approved by Illinois EPA on February 5, 2002 that was subsequently modified on June 21, 2002. The February 5, 2002 approval letter expanded the scope of corrective action at this facility to all recognized environmental conditions (not just the SWMUs and PRSs identified in the 1993

permit) and divided the facility into nineteen land reuse areas for remediation and potential redevelopment. A map of the Main Plant reuse areas is presented in Attachment IV-A to this section; these areas are also identified as follows:

Area No.	Name
Area 1	Northwest Corner
Area 2	Northeast Corner
Area 3	North Central Area
Area 4	Former Rail Yard
Area 5	South Central Area
Area 6	Former APAC Area
Area 7	Former Alkyl Plant
Area 8	North Tank Farm
Area 9	Korea Tank Farm
Area 10	East Tank Farm
Area 11	Spray Pond Area (Ponds 1 & 2 and Intake Channel Areas)
Area 12	South Tank Farm
Area 13	Wildlife Enhancement Area
Area 14	Southeast Corner
Area 15	Administration Building
Area 16	Marketing Operations Area
Area 17	Liquid Propane Gas (LPG) Caverns
Area 18	North Cell Spray Pond 1 and South Flare Pit
Area 19	Spray Pond 3

3. A substantial amount of work has already been completed at this facility. A summary of the plans/reports submitted to date regarding corrective action at this facility, organized by Illinois EPA log number (and thus the chronologic order in which the plans/reports were submitted is provided in Attachment IV-B; this attachment also identifies Illinois EPA's final action on each submittal.

4. The Permittee plans to complete corrective action for the soil and perched groundwater at the facility through the land reuse investigation remediation process. The goal in following this process is to obtain a no further action (NFA) determination for a given area by addressing recognized environmental conditions in that area. If the Permittee determines that redevelopment is not likely to occur in a given area, the Permittee will follow the corrective action process only for the SWMUs and PRSs in that area. If the potential for redevelopment of the area becomes viable in the future, the Permittee would pursue an NFA determination for the entire area (including RECs) at that time and as listed in Condition B.1. The general process for investigation/remediation of each area is as follows:

   a. Current conditions will be established for the parcel/area.

   b. An Investigation Work Plan incorporating the Current Conditions will be developed and submitted to Illinois EPA for review and approval to investigate data gaps required to properly characterize the area (this submittal is referred to as the Current Conditions Report/Investigation Workplan).

   c. The investigation, focused on obtaining soil and any perched groundwater data, will be completed. It must be noted that the groundwater within the uppermost aquifer beneath the facility is being addressed by the requirements of Section V of this permit.

   d. The results of investigation will be analyzed; as well as all other data remediation objectives will be developed in accordance with 35 Ill. Adm. Code 742; a comparison will be made between the data to the developed remediation objectives; and a determination will be made regarding the need for any remedial activities (including the establishment of engineered barriers and institutional controls).

   e. A report documenting the results of the efforts described in Items (c) and (d) above will be submitted to Illinois EPA for review and approval (this report is referred to as the Investigation Report). This report will also identify any required remedial activities (including establishment of any required engineered barriers and/or institutional controls) needed to achieve the proposed remediation objectives.

   f. Based upon the results of its review of the Investigation Report, Illinois EPA will either:

(1) require that additional investigative efforts be conducted;

(2) issue a Draft No Further Action (NFA) letter for soil and perched groundwater (if applicable). This draft NFA will identify any required remedial activities (including establishment of an engineered barrier or institutional control) that must be completed before a final NFA letter can be issued. As necessary, the Permittee will conduct the required remedial activities and submit a report to Illinois EPA for review and approval documenting the results of these activities. Additional work must be conducted by the Permittee as necessary in accordance with plans and reports approved by Illinois EPA, until Illinois EPA determines that a Final NFA letter can be issued.

(3) issue a Final No Further Action letter for soil and perched groundwater (if applicable);

(4) require some combination of the above efforts.

g. Any engineered barriers and/or institutional controls required in the development of remediation objectives must be established before a Final No Further Action letter can be issued. Plans for establishing the required barrier/institutional control must be submitted to Illinois EPA for review and approval as well as reports documenting completion of these efforts. Any other proposed remedial efforts to achieve the established remediation objectives must also be completed before a Final No Further Action letter can be issued.

h. Development of the area will proceed.

5. Plans and reports associated with all aspects of corrective action at this facility should be submitted to Illinois EPA before being implemented.

6. The investigation efforts conducted at each area must be sufficient to characterize contamination associated with the identified recognized environmental conditions present in the area. The area investigations will focus on soil and perched water.

7. The status of investigations and corrective action for each area as of September 2010 is presented on the table below.

Notes:
1. CCR/IW = Current Conditions Report/Investigation Work Plan
2. Inv Report = Investigation Report
3. NFA = No Further Action

Area	Accomplishments as of September 2010	Current Status
Area 1-Northwest Corner	NFA for soils approved December 5, 2001. Recorded ELUC approved March 25, 2005.	Comply with conditions of NFA and ELUC.
Area 2-Northeast Corner	NFA for soils approved August 13, 2002. Recorded ELUC approved March 29, 2005.	Comply with conditions of NFA and ELUC.
Area 3-North Central Area	CCR/IW approved September 27, 2002. Inv. Report submitted December 22, 2006; additional information submitted July 12, 2007 and February 21, 2008. IEPA e-mailed comments on Inv. Report on February 25, 2008.	Facility conducting additional investigation in response to comments received from Illinois EPA and will submit revised Inv. Report.
Area 4-Former Rail Yard	NFA for soils approved August 22, 2003. Recorded ELUC approved September 29, 2005.	Comply with conditions of NFA and ELUC.
Area 5-South Central Area	CCR/IW approved September 27, 2002. Inv. Report submitted December 22, 2006; additional information submitted November 30, 2007, March 7, 2008 and October 24, 2008. IEPA approved the Inv. Report on January 30, 2009. Perched groundwater wells were installed in December 2009.	Conduct additional sampling in accordance with January 30, 2009 IEPA letter and submit revised Inv Report to IEPA.
Area 6-Former APAC Area	CCR/IW approved September 5, 2002. Inv. Report submitted December 22, 2006; additional information submitted July 12, 2007, February 21, 2008 and January 2, 2008. IEPA approved the Inv. Report on February 24, 2010.	Facility conducting additional investigation in response to comments received from IEPA and will submit revised Inv Report to IEPA.
Area 7-Former	CCR/IW approved August 7, 2003.	IEPA reviewing Inv. Report.

Area	Accomplishments as of September 2010	Current Status
Alkyl Plant	Inv. Report submitted June 2, 2008 to IEPA.	
Area 8-North Tank Farm	CCR/IW approved August 7, 2003. Inv. Report submitted June 2, 2008.	IEPA reviewing Inv. Report
Area 9-Korea Tank Farm	CCR/IW approved September 9, 2002. Inv. Report submitted May 9, 2008; IEPA e-mailed comments on report on June 1, 2009 and October 22, 2009.	Facility conducting additional investigation in response to comments received from Illinois EPA and will submit revised Inv. Report.
Area 10-East Tank Farm	CCR approved June 4, 2003. Inv. Report submitted March 21, 2008; IEPA e-mailed comments regarding report on June 16, 2009 and October 7, 2009.	Facility conducting additional investigation in response to comments received from Illinois EPA and then submit revised Inv. Report.
Area 11-Spray Pond Area (Ponds 1 and 2 and Intake Channel Areas)	RFI Phase I report for SWMUs in area approved June 5, 2001.	Submit CCR/IW by March 1, 2011.
Area 12-South Tank Farm	RFI Phase I report for SWMUs in area approved June 5, 2001.	Submit CCR/IW by April 1, 2015.
Area 13-Wildlife Enhancement Area	RFI Phase I report for SWMUs in area approved June 5, 2001.	Submit CCR/IW by April 1, 2011.
Area 14-Southeast Corner	RFI Phase I report for SWMUs in area approved June 5, 2001.	Submit CCR/IW by May 1, 2011.
Area 15-Administration Building	NFA for soils approved November 19, 2003. Recorded ELUC approved September 29, 2005.	Comply with conditions of NFA and ELUC.
Area 16-Marketing Operations Area	CCR/IW approved May 5, 2009.	Conduct investigation in accordance with Illinois EPA's May 5, 2009 letter and submit Inv. Report.
Area 17-LPG Caverns	CCR/IW approved May 5, 2009.	Conduct investigation in accordance with Illinois EPA's May 5, 2009 letter and submit Inv. Report.
Area 18-North Cell Spray Pond 1 (NCSP1) and South	See Subsection C below.	See Subsection C below.

Area	Accomplishments as of September 2010	Current Status
Flare Pit (SFP)		
Area 19 Spray Pond 3	IEPA approved a Land Reuse Investigation Report and Closure Plan on December 6, 2007; IEPA revised this letter on April 13, 2009. This letter determined that no further action required in area provided certain requirements are met and certain restrictions are placed on future activities in the area.	Facility must: (1) submit/implement a plan to address the contamination present in four sub-areas identified in Condition 1 of Illinois EPA's April 13, 2009 letter; and (2) eventually submit a draft ELUC which contains proposed restrictions on future activities at the facility as required by Condition 14 of Illinois EPA's April 13, 2009 letter.

8. No further action letters have already been issued for soils in Areas 1 (6.3 acres), 2 (43 acres), 4 (29.44 acres), and 15 (11.73 acres). As part of these no further action determinations, certain restrictions have been placed on future activities in each of these areas. The restrictions within each area are set forth in Environmental Land Use Controls established in accordance with 35 Ill. Admin. Code 742 and filed with the Madison County Recorder's Office as follows:

Area for Which ELUC Established	Date Filed	Document No.	Date IEPA Approved Copy of Filed ELUC
Area 1	January 23, 2003	2003R05241	March 29, 2005
Area 2	February 3, 2003	2003R08605	March 25, 2005
Area 4	July 13, 2005	2005R38583	September 29, 2005
Area 15	October 1, 2004	2004R59615	September 29, 2005

9. In general, the ELUCs identified place the following restriction on Areas 1, 2, 4 and 15:

   a. No groundwater beneath the areas, including perched groundwater, may be used as a potable supply of water.

b. Contaminated groundwater and/or soil that is removed, excavated, or disturbed from the areas must be handled in accordance with all applicable laws and regulations.

c. The areas may not be used for residential purposes; it may only be used solely and exclusively as "industrial/commercial property" as that term is defined in 35 Ill. Admin. Code 742.

d. Excavation and subsurface construction work in the areas must be conducted in accordance with a site health and safety plan designed to restrict direct worker exposure to impacted soil and impacted perched groundwater in the area and all the construction workers shall be equipped with appropriate personal protective equipment as required and specified in the site health and safety plan.

e. The soil within each area is to remain in place, except where necessary to remove it for construction purposes;

f. A detailed process must be followed in the management on any soil excavated during construction/demolition/excavation efforts in the areas. This process allows the excavated soil to be placed elsewhere at the BP facility provided certain requirements are met.

g. Requires maintenance of engineered barriers over certain portions of each area as follows:

Area	Number of Subareas Requiring an Engineered Barrier
Area 1	2
Area 2	2
Area 4	3
Area 15	4

h. Prior to commencement of any future excavation and/or construction in or near the sub-areas covered by an engineered barrier, a safety plan for that sub-area is required that is consistent with NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities; OSHA regulations, particularly in 29 CFR 1910 and 1926; state and local regulations, and other USEPA guidance as available. At a minimum, the plan should address possible worker exposure to contaminated soil which

may be present in the sub-area. Any contaminated soil removed, or excavated from, or disturbed in the sub-areas where any engineered barrier is present must be handled in accordance with all applicable laws and regulations.

C. RCRA CLOSURE, RCRA POST-CLOSURE AND RCRA CORRECTIVE ACTION REQUIREMENTS FOR THE NORTH CELL SPRAY POND 1 AND THE SOUTH FLARE PIT

1. The North Cell Spray Pond 1 (NC-SP1) and South Flare Pit (SFP) were regulated hazardous waste management units in the RCRA permit issued to this facility on September 30, 1993. Since that time, BP has been providing post-closure care of these two units in accordance with the requirements of that permit. BP began pursuing a closure by removal demonstration for the NCSP-1 in 2002 and the SFP in 2005.

   a. With regard to the NC-SP1, on January 7, 2008, Illinois EPA approved a closure by removal demonstration for the NC-SP1. Based upon this approval, no further action is necessary at NC-SP1 in regards to RCRA closure, RCRA post-closure or RCRA corrective action.

   b. With regard to the SFP:

      (1) Illinois EPA has determined that the facility has satisfied the groundwater requirements of Illinois EPA's May 29, 2007 (Log Nos. B-147-M-7 and M-13) and September 9, 2008 (Log No. PS08-030) letters. Based upon 35 Illinois Administrative Code (35 IAC) 742.925, the groundwater ingestion route for perched groundwater can be excluded at the SFP area. The facility must continue to address groundwater of the uppermost aquifer in accordance with Section V of this Renewal Permit.

      (2) A closure by removal demonstration for the soils at the SFP, was approved by Illinois EPA on January 7, 2008 subject to the establishment of an ELUC meeting the requirements of 35 Ill. Admin. Code 742 which places certain restriction on future activities at the unit. The requirements regarding the restrictions that must be contained in the ELUC are set forth in Condition IV.C.2 below. The requirements for the development of the ELUC are addressed in Condition IV.C.3 below.

2. The draft ELUC to be established for the SFP must place the following restrictions on the future activities of the subject property:

   a. All groundwater, including the perched groundwater, under the Property shall not be used as a potable supply of water, and any contaminated groundwater and/or soil that is removed, excavated, or disturbed from the Property shall be handled in accordance with all applicable laws and regulations;

   b. The Property shall not be used for Residential use. The Property shall be used solely and exclusively for "industrial/commercial property" use as it is defined in 35 Ill. Adm. Code 742;

   c. Any excavation and subsurface construction work on the Property shall be conducted in accordance with a site health and safety plan designed to restrict direct worker exposure to impacted soils and impacted perched groundwater on the Property, and all the construction workers shall be equipped with appropriate personal protective equipment as required and specified by the site health and safety plan;

   d. The soil within the Property shall remain in place, except where necessary to remove it for construction activities;

   e. Soil excavated during construction/demolition/excavation activities within the Property shall be evaluated to determine if it is contaminated. This determination shall be made by a visual inspection and by subjecting the soils to field screening tests for volatile organic compounds ("VOCs") The soil evaluation and management procedures shall be as follows:

      (i) Field Screening. Soil shall be considered "potentially contaminated" if: (1) there is a visual discoloring of the soil indicative of hydrocarbon product; or (2) a field screening test for VOCs detects the presence (i.e., PID readings >100 units) of VOCs in soil;

      (ii) Laboratory Analysis. Soils exhibiting potential contamination based on visual discoloring or a field screening test for VOCs will must be sampled for benzene, toluene, ethylbenzene, and xylenes (BTEX) and polycyclic aromatic hydrocarbons (PAHs) laboratory analysis, or considered contaminated without analytical testing.

(iii) Determination of Non-Contaminated Soils. Soils will be considered non-contaminated if: (1) laboratory analytical data indicates constituents in soil are less than the Illinois EPA approved site specific industrial/commercial ROs developed for the Property; or (2) visual inspection or field screening indicates soils are below the threshold levels given in 11.e.i above.

(iv) Management of Non-Contaminated Soils. Soils that are considered not contaminated, as determined by field screening or laboratory results, may be reused as clean fill in other areas of the former BP Refinery Main Plant Facility. Soils may be transported off-site as clean fill if laboratory data indicates constituents are less than TACO residential standards.

(v) Management of Contaminated Soils. If soils are found to be contaminated, they shall be sent off-site for disposal in accordance with 35 Ill. Adm. Code, Subtitle G: Waste Disposal.

(vi) Documentation. All of these activities must be documented in the facility's operating records.

3. A draft ELUC for the SFP which places the restrictions in Condition IV.C.2 above on future activities at the SFP must be submitted to Illinois EPA for review and approval within ninety days of the effective date of this permit. This draft ELUC must be developed in accordance with 35 Ill. Admin. Code 742. 35 Ill. Adm. Code 742.1010(d)(8) requires that the ELUC eventually established for the SFP contain scaled maps which show information about the facility, any remaining contamination at the facility and any physical features at the facility to which the ELUC applies.

a. The required scaled site maps must specifically show:

(1) The legal boundary of the property to which the ELUC applies;

(2) The horizontal and vertical extent of contaminants of concern above applicable remediation objectives for soil and groundwater to which the ELUC applies;

(3) Any physical features to which an ELUC applies (e.g., engineered barriers, monitoring wells, caps); and

(4) The nature, location of the source, and direction of movement of the contaminants of concern.

b. Exhibit B of the model ELUC developed by Illinois EPA is comprised of the maps necessary to meet the requirements of 35 Ill. Adm. Code 742.1010(d)(8). In developing such an exhibit for an ELUC associated with an engineered barrier or industrial/commercial land use restrictions:

(1) If only one drawing is used to present all the required information, then it must be clearly labeled as Exhibit B to the ELUC in question. Many times however, it will be necessary to include more than one drawing in Exhibit B to meet the requirements of the requirements of 35 Ill. Adm. Code 742.1010(d)(8). In such cases, each map shall be given a unique Exhibit number (i.e., Exhibit B-1, B-2, B-3, etc.) and labeled as such.

(2) A cover sheet must be provided for the exhibit which: (a) lists the types of scaled maps that must be provided in the ELUC as required in 35 Ill. Adm. Code 1010(d)(8); (b) identifies the map within the exhibit which addresses the individual requirements of 35 Ill. Adm. Code 742.1010(d)(8)(A), (B), (C) and (D); and (c) lists the maps which comprise the exhibit by name and number.

(3) The Real Estate Tax Index/Parcel Index Number (PIN) of the property in question must be contained on each map in Exhibit B.

D. PARCELING

1. On March 3, 2010 Illinois EPA approved the concept of parceling as part of the corrective action process at this facility, either in a horizontal or vertical fashion. "Parceling," for purposes of this permit, shall mean the dividing up of a given property and all rights associated with it into various three-dimensional parcels with defined boundaries above, on and/or below the surface of the earth. The establishment of various parcels at the subject facility will aid in the implementation of corrective action and redevelopment of the facility.

a. The boundaries of any parcels established in accordance with the process approved by this permit must be defined by a professional land surveyor licensed to practice in the State of Illinois and meet the requirements of all statutes and regulations applicable to such efforts.

b. Each parcel eventually established in accordance with the process approved by this letter must obtain an individual and unique Real Estate Tax Index/Parcel Index Number from Madison County.

c. At a minimum, until corrective action is complete, BP must maintain ownership of the subsurface parcel, which consists of the subsurface beneath the current boundaries of the subject facility excluding the surface parcel and the agreed upon depth of land conveyed therewithin.

2. The first step in the vertical parceling process is to clearly establish the current property boundaries of the facility and identify the boundaries of the current property identification number(s) associated with the subject facility. A drawing presenting this information must be developed in accordance with the provisions set forth in Condition IV.D.1.a above and be included in the submittal required by Condition IV.D.10 below. The boundaries of the nineteen horizontal parcels already approved by Illinois EPA must be superimposed on this drawing. Legal descriptions of the entire facility and each horizontal parcel must also be provided in this submittal.

3. The boundaries of any new parcel must first be approved by Illinois EPA before a new parcel index number is obtained for the parcel. It must be noted that Illinois EPA has already approved the boundaries of nineteen horizontal parcels within the facility. Any request for a new parcel must contain a legal description and plot survey for that parcel developed in accordance with Condition IV.D.1.a above.

4. Corrective action efforts within the various parcels must be carried out in accordance with plans and reports approved by Illinois EPA, including all plans and reports approved by Illinois EPA to date regarding corrective action at the subject facility.

5. Illinois EPA must be able to enforce any efforts necessary to complete corrective action and achieve approved remediation objectives at the subject facility. This can be achieved via Environmental Land Use Controls, ordinances and the facility's RCRA permit.

6. The eventual removal of a given parcel from the terms and conditions of the facility's RCRA permit (so that its ownership can be transferred to another entity) will require that: (1) the parcel first receive a No Further Action determination from Illinois EPA for the soils and, as appropriate, perched water within that parcel; and (2) the permit is modified so that the parcel in question is no longer a part of the facility covered by the permit.

   a. At a minimum, as part of obtaining a No Further Action determination, an Environmental Land Use Control (ELUC) must be established which allows BP access to that parcel in the future for any groundwater monitoring or remediation efforts. It must be noted that the ELUC may also need to address certain other restrictions required to support Illinois EPA's No further Action Determination.

   b. To modify the definition of the facility covered by the permit, BP will be required to submit a request to modify the permit in accordance with 35 Ill. Admin. Code 703, Subpart G. Such a request would appear to be a Class 3 modification request. Thus, BP must submit the subject request in accordance with the procedures set forth in 35 Ill. Admin. Code 703.283 or it may request a determination by Illinois EPA that the request be viewed as a Class 1 or Class 2 modification request. If BP requests that the modification be classified as a Class 1 or Class 2 request, then the modification request must contain the necessary information to support the proposed classification.

7. As property (or parcels) with new parcel index numbers are established, it may be necessary to re-file ELUCs which have already been filed with the Madison County Recorder.

   a. Such an effort is necessary if the new parcel was created from a parcel for which an ELUC was already established.

   b. In addition to re-filing the required ELUC on the new parcel, it will be necessary to file documentation on the original parcel indicating that the original ELUC no longer applies to that parcel (it may also be necessary to file a revised ELUC on the original parcel) identifying any restrictions that still apply to that parcel of land.

8. As stated in Condition IV.D.1 above, this permit only approves the concept of parceling the subject facility. A request to modify the facility's RCRA permit must be submitted to Illinois EPA for review and approval which proposes the procedures to be used in: (1) the parceling effort; and (2) removing a given parcel from the terms and conditions of the permit.

9. In addition to making the proposed modification discussed in Condition 8 above, the permit modification request must also contain a proposal to update the entire corrective action section to reflect the current status of the corrective action program at the facility.

10. The permit modification requests identified in Conditions 8 and 9 are a Class 3 modification request. Thus, BP must submit the subject request in accordance with the procedures set forth in 35 Ill. Admin. Code 703.283 or request a determination by Illinois EPA that the request be viewed as a Class 1 or Class 2 modification request. If BP requests that the modification be classified as a Class 1 or Class 2 request, then the modification request must contain the necessary information to support the proposed classification.

E. COST ESTIMATES/FINANCIAL ASSURANCE FOR CORRECTIVE ACTION

1. The Permittee shall prepare a cost estimate for the completion of any corrective action required under this permit, in order to provide financial assurance for completion of corrective action, as required under 35 IAC 724.201(b). Such a cost estimate must be based upon the cost of contamination investigations and assessments for the SWMU(s), and design, construction, operation, inspection, monitoring, and maintenance of the corrective measure(s) to meet the requirements of 35 IAC 724.201 and this permit. These estimates must be based upon third party costs. The revised cost estimate for corrective action must be submitted to the Agency annually by January 1.

2. The application did not contain an estimate of the cost for completing the required corrective actions at this facility, based upon existing information. Thus, such an estimate, along with detailed supporting information (such as unit costs and material/labor needs) must be submitted to Illinois EPA for review and approval within ninety (90) days of the effective date of this permit.

3. The Permittee shall demonstrate continuous compliance with 35 IAC 724.201 by providing documentation of financial assurance using a mechanism specified in

35 IAC 724.243, in at least the amount of the cost estimate required under Condition IV.E.1 the words "completion of corrective action" shall be substituted for "closure and/or post-closure", as appropriate in the financial instrument specified in 35 IAC 724.251. The documentation shall be submitted to the Agency's DLPC within 60 days after the submittal of the initial or revised cost estimates required under Condition IV.E.1. The Agency's DLPC may accept financial assurance for completion of corrective action in combination with another financial mechanism that acceptable under 35 IAC 724.246 at its discretion.

4. It must be noted that cost estimates and financial assurance must be provided for the operation of the groundwater remediation system required by Section V of this permit as such a system is necessary to meet the requirements of 35 Ill. Admin. Code 724.201.

5. All cost estimates prepared under the requirements of Conditions III.E.1 through III.E.4 must be submitted as a Class 1* permit modification request in accordance with 35 Ill. Adm. Code 703.281.

F. REQUIREMENTS FOR ADDRESSING NEWLY- IDENTIFIED SWMU(s)

1. The Permittee shall notify the Illinois EPA's DLPC in writing of any newly-identified SWMU(s) discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means, no later than thirty (30) calendar days after discovery. The notification shall provide the following information, as available:

   a. The location of the newly-identified SWMU in relation to other SWMUs on a scaled map or drawing;

   b. The type and past and present function of the unit;

   c. The general dimensions, capacities, and structural description of the unit (available drawings and specifications provided);

   d. The period during which the unit was operated;

e. The specifics on all materials, including but not limited to, wastes and hazardous constituents, that have been or are being managed at the SWMU, to the extent available; and

f. The results of any relevant available sampling and analysis which may aid in determining whether releases of hazardous wastes or hazardous constituents have occurred or are occurring from the unit.

2. If the submitted information demonstrates a potential for a release of hazardous waste or hazardous waste constituents from the newly identified SWMU, the Illinois EPA's DLPC may request in writing, that the Permittee prepare a Solid Waste Management Unit (SWMU) Assessment Plan and a proposed schedule of implementation and completion of the Plan for any additional SWMU(s) discovered subsequent to the issuance of this Permit. This SWMU Assessment plan must also propose investigations, including field investigations if necessary, to determine the release potential to specific environmental media for the newly-identified SWMU. The SWMU Assessment Plan must demonstrate that the sampling and analysis program, if applicable, is capable of yielding representative samples and must include parameters sufficient to identify migration of hazardous waste and hazardous constituents from the newly-discovered SWMU(s) to the environment.

3. Within 90 calendar days after receipt of the Illinois EPA's DLPC request for a SWMU Assessment Plan, the Permittee shall submit a SWMU Assessment Plan.

4. After the Permittee submits the SWMU Assessment Plan, the Illinois EPA's DLPC shall either approve, approve with conditions or disapprove the Plan in writing. If the plan is approved, the Permittee shall begin to implement the Plan within forty-five (45) calendar days of receiving such written notification. If the Plan is disapproved, the Illinois EPA's DLPC shall notify the Permittee in writing of the Plan's deficiencies and specify a due date for submittal of a revised plan.

5. The Permittee shall submit a report documenting the results of the approved SWMU Assessment Plan to the Illinois EPA's DLPC in accordance with the schedule in the approved SWMU Assessment Plan. The SWMU Assessment Report shall describe all results obtained from the implementation of the approved SWMU Assessment Plan.

6. The Permittee must implement a Corrective Measures Program, as necessary, to properly address any contamination encountered during the assessment.

Guidance regarding the implementation of this program will be provided at the time Illinois EPA notifies the Permittee of the need for such a program.

G. FUTURE RELEASES FROM SWMUs

There exists a potential that a release may occur in the future from SWMUs identified in the RFA which did not require any corrective action at the time that the RFA or RFI was completed. If the Permittee discovers that a release has occurred from such a SWMU in the future, then the Illinois EPA must be notified of this release within thirty (30) days after its discovery following the procedures set forth in Condition IV.F.1 above. Additional investigation and, as necessary, corrective measures efforts at this SWMU must be carried out in accordance with the procedure set forth in Subsection E above. The results of all corrective action efforts required by this condition must meet the requirements of 35 Ill. Adm. Code 724.201.

H. INTERIM MEASURES/STABILIZATION

1. At any time during the corrective action process, the Permittee may initiate interim measures for the purpose of preventing continuing releases and/or mitigating the results of releases and/or mitigating the migration of hazardous wastes or hazardous constituents. It shall not be necessary to conduct all phases of a RCRA Facility Investigation (RFI) or a Corrective Measures Study (CMS) prior to implementing an interim measure if the Illinois EPA's DLPC and the Permittee agree that a problem can be corrected, or a release cleaned up, without additional study and/or without a formal corrective measures study.

   a. Prior to implementing any interim measures, the Permittee must submit detailed information regarding the proposed interim measure to the Illinois EPA's DLPC for approval. This information shall include, at a minimum:

      (1) Objectives of the interim measures: how the measure is mitigating a potential threat to human health and the environment and/or is consistent with and integrated into any long-term solution at the facility;

      (2) Design, construction, and maintenance requirements;

      (3) Schedules for design and construction; and

(4) Schedules for progress reports.

b. If the Illinois EPA's DLPC determines that a release cannot be addressed without additional study and/or a formal CMS, then the Illinois EPA's DLPC will notify the Permittee that these must be performed. Any proposal made under this provision or any other activity resulting from such proposal, including the invocation of dispute resolution, shall not affect the schedule for implementation of the other corrective action efforts being carried out at the facility or of any other portion of the permit.

c. If the Illinois EPA determines that interim measures are necessary to protect human health or the environment, the Permittee will be notified by way of a permit modification.

2. Consistent with the annual reporting requirements of this permit, the Permittee shall submit a report assessing the effectiveness of any interim measures being carried out in accordance with this permit. Based on a review of this report, the Illinois EPA reserves the right to require additional interim measures be carried out if it is determined that the interim measure is unable to protect human health and the environment. This annual report should at a minimum contain the following information regarding each system which comprises the interim measure:

a. A discussion of each system's operation during the year. This discussion should address: (1) actual daily, weekly and monthly flow rates through each system; (2) any periods when the systems were not operating; and (3) deviations from the design operating procedures for the system (such as problems with drawing an adequate vacuum, downtime due to equipment failure, etc.);

b. Results of all monitoring efforts carried out during the year;

c. A discussion of the effectiveness of the system supported as appropriate with data and calculations;

d. Recommended changes, if any, which should be made to the system to improve its effectiveness.

3. The interim measure approved for a SWMU may not be sufficient to meet the final requirements for corrective action for remediation for the unit. The adequacy of the interim measure will be addressed upon Illinois EPA review and approval of the RFI Reports and the Corrective Measures Plan, as required by this permit. As such, the Permittee may be required to expand this interim measure as necessary to address existing or additional contamination detected through RFI investigations.

4. The Illinois EPA reserves the right to require revision and modification of the interim measures implemented by the facility should it be determined by the Illinois EPA through information obtained through facility monitoring that the interim measures approved by this portion of the permit are ineffective in protecting human health and the environment.

I. REPORTING REQUIREMENTS

1. A report must be submitted summarizing the corrective action efforts completed during each quarter of the calendar year. This report must also contain a general description of the corrective action efforts to be completed during the next quarter of the calendar year.

   a. The reports should be submitted in accordance with the following schedule:

Reporting Period	Report to be Submitted by the Following
January-March	April 15
April-June	July 15
July-September	October 15
October-December	January 15

   b. Each report must contain:

      (1) a summary of activities completed at each parcel during the quarter, including information regarding the amount of free product/groundwater/leachate removed on a weekly basis from various units during the quarter;

      (2) a discussion of any problems encountered while conducting corrective action at each parcel during the quarter;

(3) A summary of the activities anticipated to be carried out during the next quarter.

2. A report must be submitted to Illinois EPA by March 1 of each year which summarizes corrective action program activities completed at the facility during the previous calendar year (i.e., the previous January 1 to December 31). This report must contain a compilation/summary of the information in the quarterly reports for the year, what was completed during the year, and what must still be done in the next year and in the following years.

3. Final reports must be submitted to Illinois EPA for review and approval when corrective action is complete for a given parcel. Such reports must be certified by an independent licensed professional engineer and a person of authority from the Permittee. This certification must meet the requirements of 35 Ill. Adm. Code 702.126. These reports must contain be detailed in nature and contain sufficient information which (1) describes in detail all investigation/remediation efforts carried out in the parcel; and (2) the efforts were carried out in accordance with the approved plan and this permit.

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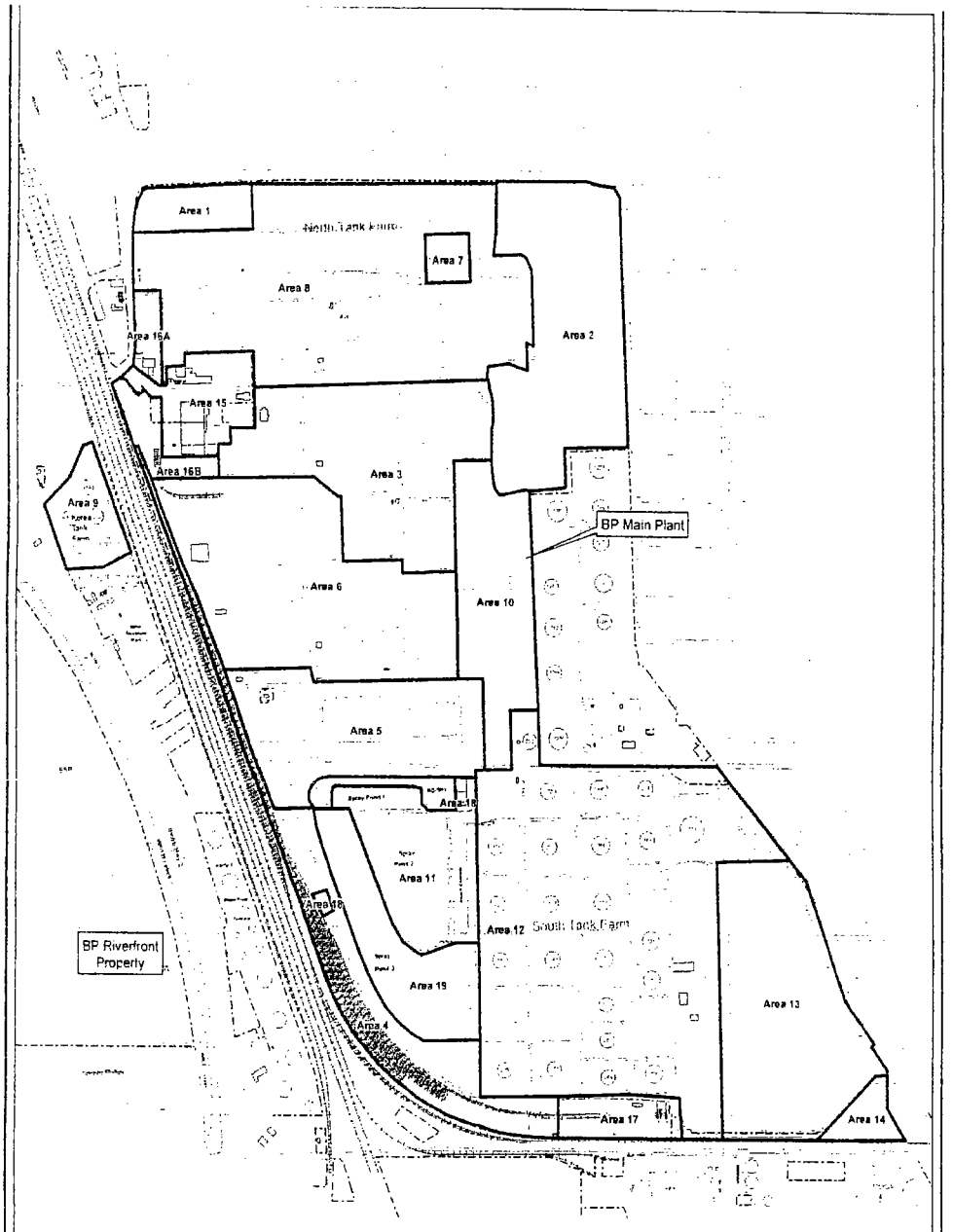
RCRA Permit Log No. B-147R

BP/Main Plant

Section IV: Corrective Action

Attachment IV-A

Site Layout Map



Main Plant Land Reuse Parcels

Area 1 - Northwest Parcel*
Area 2 - Northeast Parcel*
Area 3 - North Central Parcel
Area 4 - Rail Yard Area
Area 5 - South Central Parcel
Area 6 - Former APAC
Area 7 - Alky Plant
Area 8 - North Tank Farm
Area 9 - Korea Tank Farm
Area 10 - East Tank Farm
Area 11 - Spray Ponds (1, 2, and Intake Channel)
Area 12 - South Tank Farm
Area 13 - Wildlife Enhancement Area
Area 14 - Southeast Corner
Area 15 - Administration Building Parcel
Area 16 - Marketing Operation Area
Area 17 - LPG Caverns Area
Area 18 - North Cell of Spray Pond 1 and South Flare Pit and Surrounding Area
Area 19 - Spray Pond 3 Area

N

325 0 325
Feet

1 inch equals 750 feet

URS 100 South Wacker Drive Suite 500 Chicago Illinois 60606

Main Plant Property
Land Reuse Parcels
BP Former Refinery
Wood River, Illinois

PROJECT NO. 25366764

RCRA Permit Log No. B-147R

BP/Main Plant

Section IV: Corrective Action

Attachment IV-B

Chronologic Summary of Corrective Action Submittals
(organized by IEPA Log No.)

Summary of Corrective Action Submittals
BP/Main Plant
Log No. B-147
September 2010

The table below summarizes the plans/reports/documents submitted to Illinois EPA regarding the corrective action efforts at the BP/Main Plant facility in Wood River, Illinois.

Note:

CCR = Current Conditions Report
GMZ = Groundwater Management Zone
NC-SP1 = North Cell of Spray Pond 1
RFI = RCRA Facility Investigation
SFP = South Flare Pit
SSI = Statistically Significant Increase

Log No.	Submittal	Status
B-147	RCRA Permit issued to facility, Section IV contains corrective action requirements.	Approved September 30, 1993
B-147	Proposed GMZ	Approved April 6, 1994
CA-1	RFI Phase I workplan	Approved September 7, 1994
CA-2	RFI Phase I report	Approved June 5, 2001
CA-3	Supplemental RFI Phase I report	Approved June 5, 2001
CA-4	Conceptual RFI Phase II/III workplan	Superseded by CA-7
CA-5	Investigation Workplan for Areas 1 and 2	Approved August 15, 2000
CA-6	Engineered Barrier Specification Report	Superseded by CA-9
CA-7	RFI Phase II/III workplan	Approved February 5, 2002
CA-8	Human Exposures Controlled (CA725) Demonstration	Superseded by CA-12
CA-9	Engineered Barrier Specification Report	Approved August 3, 2001

Log No.	Submittal	Status
CA-10	"Comfort Letter" request for soils in Area 1	Approved July 9, 2001
CA-11	No Further Action Determination for Area 1	Approved December 5, 2001
CA-12	Human Exposures Controlled (CA725) Demonstration	Approved October 9, 2001
CA-13	Request to incorporate two releases in Area 12 into corrective action program	Superseded by CA-16
CA-14	NFA for Area 2	Approved August 13, 2002
CA-15	Groundwater action Releases Under Control (CA750) Demonstration	Approved March 18, 2002
CA-16	Request to Incorporate two releases in Area 12 into corrective action program	Approved September 13, 2002
CA-17	CCR/Characterization Workplan for Area 4	Approved January 10, 2002
CA-18	GMZ Re-Evaluation	Approved March 13, 2002
CA-19	CCR/Characterization Workplan for Area 19	Approved March 20, 2002 (soils); April 9, 2002 (groundwater)
CA-20	CCR/Characterization Workplan for Area 15	Approved March 20, 2002 (soils); April 9, 2002 (groundwater)
CA-21	City of Wood River Ordinance and MOU to restrict groundwater use	Approved March 28, 2002
CA-22	CCR/Characterization workplan for Area 9	Approved September 5, 2002
CA-23	Modifications to Approved Phase II/III RFI workplan (CA-7)	Approved June 21, 2002

Log No.	Submittal	Status
CA-24	CCR/Characterization Workplan for Area 6	Approved September 5, 2002
CA-25	CCR/Characterization workplan for Area 5	Approved September 27, 2002
CA-26	Revised CCR/Characterization workplan for Area 15	Approved September 27, 2002
CA-27	CCR/Characterization Workplan for Area 3	Approved September 27, 2002
CA-28	Comments on IEPA's January 10, 2002 letter regarding Area 4 (CA-17)	Approved September 5, 2002
CA-29	Draft ELUC for Area 1	Approved January 10, 2003
CA-30	Investigation Report for Area 4	Approved August 22, 2003
CA-31	Investigation Report for Area 15	Approved November 19, 2003
CA-32	Revised Corrective Action Schedule	Approved February 7, 2003
CA-33	CCR/Characterization Workplan for Area 7/8	Approved August 7, 2003
CA-34	Revised Corrective Action Schedule	Superseded by CA-45
CA-35	Report on soil removal activities in Area 2	Approved August 11, 2003
CA-36	Area 15 Report-Addendum 1	Approved November 19, 2003
CA-37	Area 15 Report-Addendum 2	Approved November 19, 2003
CA-38	Extension request for submitting Area 12 CCR/Workplan	Approved December 30, 2004
CA-40	Draft ELUC for Area 2	Approved January 29, 2003
CA-41	CCR/Characterization Workplan for Area 10	Approved June 4, 2003

Log No.	Submittal	Status
CA-42	Soil Removal Activities Report at Area 15	Approved June 16, 2004
CA-43	Draft ELUC for Area 15	Approved August 23, 2004
CA-44	Soil Removal Activities Report at Area 4	Approved September 15, 2004
CA-45	Revised Corrective Action Schedule	Approved December 30, 2004
CA-46	Recorded ELUC for Area 15	Approved September 29, 2005
CA-47	Draft ELUC for Area 4	Approved June 1, 2005
CA-48	Recorded ELUC for Area 1	Approved March 25, 2005
CA-49	Recorded ELUC for Area 2	Approved March 29, 2005
CA-50	Updated RFI Phase II/III Project Plan Schedule	Approved September 21, 2005
CA-51	2004-05 CCR Phytoremediation/Landfarming Remedial Measures at Tank 293	Approved December 29, 2005
CA-52	Recorded ELUC for Area 4	Approved September 29, 2005
CA-53	Submittal regarding facility's GMZ	Approved January 24, 2006
CA-54	Summary of Phytoremediation/Landfarming Remedial Measures at Tank 293	Approved August 11, 2008
CA-55	Reevaluation of GMZ	Approved January 21, 2009
CA-56	Updated RFI Phase II/III Project Plan Schedule	Received October 4, 2006
CA-57	Investigation Report for Area 3	Soil comments e-mailed by IEPA February 25, 2008
CA-58	Investigation Report for Area 5	Disapproved June 22, 2007
CA-59	Investigation Report for Area 6	Received December 26, 2006; July 13, 2007; and February 26,

Log No.	Submittal	Status
		2008. IEPA e-mailed comments on July 11, 2009.
CA-60	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are from alternate source	Approved January 6, 2009
CA-61	Underground Piping Investigation Work Plan	Approved April 4, 2007 (eventually superseded by CA-90)
CA-62	Re-evaluation of GMZ	Approved January 21, 2009
CA-63	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are from alternate source.	Approved January 6, 2009
CA-64	Underground Piping Work Plan for 7 and 8 Areas	Superseded by CA- 90
CA-65	Investigation Report for Area 19	Approved December 6, 2007
CA-66	Draft White Paper – Property Transfer Process	Approved March 31, 2009
CA-67	Demonstration that detection monitoring SS1s at NC-SP1 and SFP are from alternate source.	Approved January 6, 2009
CA-68	Information regarding two releases in Area 8	Approved August 13, 2007
CA-69	Addendum to Area 5 Report	On January 30, 2009, IEPA required additional investigation be conducted in Area 5.
CA-70	Supplemental Report for Soil Sampling of NC-SP1 and SFP	Approved January 7, 2008 (NFA determination made for NC-SP1; additional work required for SFP).
CA-71	Area 5 Land Reuse Investigation Report	On January 30, 2009, IEPA sent letter requiring additional investigation in Area 5.

Log No.	Submittal	Status
CA-72	Corrective Action Excavation in Area 5	On January 30, 2009, IEPA sent letter requiring additional investigation in Area 5.
CA-73	Area 5 Analytical Reports for Perched Groundwater	On January 30, 2009, IEPA sent letter requiring additional investigation in Area 5.
CA-74	2007 Annual Current Conditions Report – Phytoremediation at Tank 293	Approved August 11, 2008
CA-75	Area 5 Land Reuse Inventory Report and closure Plan, Revision 1	On January 30, 2009, IEPA sent letter requiring additional investigation in Area 5.
CA- 76	Area 10 Land Reuse Investigation and Closure Plan	Received March 22, 2008. IEPA emailed comments June 16, 2009.
CA-77	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are from alternate source	Approved January 6, 2009
CA-78	Comments on IEPA's December 6, 2007 letter regarding the Area 19 Land Reuse Investigation Report and Closure Plan (CA-65)	Approved April 13, 2009
CA-79	Area 9 Land Reuse Report	Received May 12, 2008. IEPA e-mailed comments June 1, 2009 and October 22, 2009.
CA-80	Site-Wide Class II GW Determination	Received May 12, 2008
CA-81	Area 7/8 Land Reuse Investigation Report and Closure Plan	Received June 3, 2008
CA-82	2007 Annual Current Conditions Report, Phytoremediation/Landfarming at Tank 293	Approved August 11, 2008

Log No.	Submittal	Status
CA-83	Additional information regarding two releases in Area 8 (see CA-68)	Received June 4, 2008
CA-84	Area 16 CCR/Characterization Workplan	Approved May 5, 2009
CA-85	Demonstration that detection monitoring SS1s at NC-SP1 and SFP are from alternate source.	Approved January 6, 2009
CA-86	Area 17 CCR/Characterization Workplan	Approved May 5, 2009
CA-87	Underground Pipeline Work Plan	Superseded by CA-90
CA-88	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are due to alternate source.	Approved January 6, 2009
CA-89	Additional information regarding Area 5 Investigation Report	On January 30, 2009, IEPA sent letter requiring additional investigation in Area 5.
CA-90	Underground Product Pipeline Investigation Workplan – Revision 1	Approved April 13, 2009
CA-91	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are due to alternate source.	Approved as of the effective date of renewal permit.
CA-92	Response to Comments, Area 6 Land Reuse Investigation Report	On February 24, 2010, IEPA sent letter requiring additional investigation in Area 6.
CA-93	CCR for Phytoremediation/Landfarming	Approved November 20, 2009
CA-94	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are due to alternate source.	Approved as of the effective date of this renewal permit.
CA-95	Requested changes to IEPA's April 13, 2009 approval of the Underground Product Pipeline Investigation Workplan	Approved July 6, 2009

Log No.	Submittal	Status
CA-96	Letter Regarding Vertical Parceling	Approved March 3, 2010
CA-97	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are due to alternate source.	Approved as of the effective date of this renewal permit.
CA-98	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are due to alternate source.	Approved as of the effective date of this renewal permit.
CA-99	Proposal to evaluate: (1) the hydrocarbon recovery system at facility; and (2) arsenic impacts in Well RG36	Approved February 24, 2010
CA-100	Demonstration that detection monitoring SSIs at NC-SP1 and SFP are due to alternate source.	Approved as of the effective date of this renewal permit.
CA-101	Shallow investigation of South Flare Pit.	Approved September 27, 2010 in the draft permit.
CA-102	Current Condition Report for phytoremediation landforming at Tank 293.	Received March 1, 2010.
CA-103	Demonstration that detection monitoring statistical increases are not due to significant changes in groundwater quality.	Approved as of the effective date of this permit.
CA-104	Response to request for improvement to hydrocarbon recovery system.	Received June 11, 2010.
CA-105	Demonstration that detection monitoring statistical increases are not due to significant changes in groundwater quality.	Approved as of the effective date of this permit.
CA-106	Response to February 24, 2010 letter requiring improvements to hydrocarbon recovery system.	Received July 12, 2010.
CA-107	Site-wide Geology Report and cone penetrometer	Received July 13, 2010.

Log No.	Submittal	Status
	logs.	
PS08-030	Shallow Groundwater Investigation Workplan for the South Flare Pit	Approved September 9, 2008
M-7 and M-13	Closure Documentation Reports for the North Cell of Spray Pond 1 (M-7) and the South Flare Pit (M-13)	IEPA letter of May 29, 2007 identified deficiencies in both documents

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SECTION V: GROUNDWATER CORRECTIVE ACTION PROGRAM

A. SUMMARY

Hazardous constituents released from the Main Plant facility have been detected in the groundwater at and beyond the historical point of compliance at concentrations which exceed the Groundwater Protection Standards, as well as, groundwater quality standards established by 35 Ill. Adm. Code 724.192. Therefore, a Corrective Action Program meeting the requirements of 35 Ill. Adm. Code 724.200 must be implemented at the Main Plant facility.

The Corrective Action Program required by this permit includes:

1. Control of the horizontal and vertical flow of the entire vertical column of groundwater in the uppermost aquifer such that groundwater flow is towards the interior of the Main Plant facility. This control of groundwater flow will be accomplished by withdrawing sufficient quantities of groundwater from the uppermost aquifer. Such flow control is necessary as a corrective measure to prevent further contaminant migration of on-site releases of product or waste, beyond the boundaries of the Main Plant facility and is the basis for the establishment of a Groundwater Management Zone (GMZ).

2. Verification that the flow of groundwater is adequately controlled as required by Condition V.A.1 above.

3. Monitoring the quality and movement of the groundwater in the uppermost aquifer beneath the Main Plant facility to determine the effectiveness of the Corrective Action Program, as well as, verify compliance with the GMZ.

4. Removing refinery product from above the water table.

B. DEFINITIONS

As used herein, the words or phrases set forth below have the following definitions:

1. "Uppermost Aquifer" refers to the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically connected with this aquifer in the vicinity of the facility. The uppermost aquifer in the

vicinity of the Main Plant facility has been identified as the unconsolidated aquifer consisting of sand and gravel.

2. "GMZ" refers to the three (3) dimensional region containing groundwater being managed to mitigate impairment caused by the release of contaminants from a site.

3. "Point of Compliance" refers to the vertical surface located at the hydraulically downgradient limits of the waste management area extending down into the uppermost aquifer underlying the regulated units.

4. "Ft – bgs" refers to the number of feet below the ground surface.

5. "Ft-MSL" refers to the number of feet below the ground surface referenced to mean sea level.

6. "Detected" shall mean a concentration equal to or above the PQL listed in USEPA's SW-846 (Third Edition) or as approved by the Illinois EPA for the applicable analytical methods specified in the approved Sampling and Analysis Procedures, which are incorporated by reference in Condition V.H of the Permit.

7. "Stick-up" refers to the height of the reference survey datum. This point is determined with $\pm$ 0.01 foot in relation to mean sea level, which in turn is established by reference to an established National Geodetic Vertical Datum.

8. The compliance period is the number of years equal to the active life of the waste management area, including any waste management activity prior to permitting, and the closure period.

C. IMPLEMENTATION

1. The Permittee shall implement the Corrective Action Program established in this Permit upon the effective date of this Permit. On that date, the corrective action and groundwater monitoring requirements set forth in this Permit shall supersede those previously established.

2. The Permittee shall carry out the corrective actions specified in this Permit on the groundwater beneath the Main Plant facility. The uppermost aquifer at this facility is a sand and gravel aquifer located approximately 30 feet deep below the ground surface and extending to a depth of about 101 to 113 feet below ground surface to

the top of the bedrock surface. This aquifer is commonly referred to as the "American Bottoms."

3. For the purposes of this Permit and in accordance with 35 Ill. Adm. Code Part 620 regulations, the sand and gravel aquifer has been designated Class I: Potable Resource Groundwater. The analytical results obtained from these groundwater monitoring wells shall be compared to the appropriate Class I concentration limits that comprise the groundwater protection standard found in Condition V.E.1 or to established background values as appropriate.

4. At this time, the establishment of a point of compliance will be postponed until such time that the monitoring wells at the facility have attained the applicable concentration limits that comprise the groundwater protection standard found in Condition V.E.1and the GMZ expires. At that time, facility must submit a proposal for the establishment of a point of compliance which satisfies the regulatory requirements found in 35 Ill. Adm. Code 724, Subpart F and reflects the current conditions at the facility.

D. WELL LOCATIONS AND CONSTRUCTION

1. The Permittee shall maintain the groundwater monitoring wells identified in the table below to allow for the collection of groundwater samples from the uppermost aquifer. The location of these wells is specified in Figure 3-1 of Volume 3 of the approved Permit Renewal Application.

IEPA Well No.	**Facility Well No.**	**Well Depth (ft.)**	**Well Depth Elevation (ft. MSL)**	**Well Screen Interval (ft. MSL)**
GMZ Boundary Wells				
G04R	B-4R	59.5	382.63	402.63-382.63
G045	G-5	50.0	392.60	412.60-392.60
G055	G-15	55.0	389.90	409.90-389.90
G32R	H32R	44.1	385.08	405.38-385.38
RG36	H36R	58.1	387.17	404.20-389.50
G062	G-22	45.0	388.00	408.00-388.00
R063	G-23R	46.0	385.78	405.78-385.78
G067	G-27	49.0	386.80	406.80-386.80
G068	G-28	50.0	392.60	414.60-392.60

IEPA Well No.	Facility Well No.	Well Depth (ft.)	Well Depth Elevation (ft. MSL)	Well Screen Interval (ft. MSL)
GMZ Boundary Wells				
G69R	G-29R	60.0	385.87	405.87-385.87
G073	G-33	44.0	387.23	407.23-387.23
G74L	G-34	60.0	386.92	406.92-386.92
G75L	G-35	60.0	386.63	406.63-386.63
G76L	G-36	60.0	385.79	405.79-385.79
G084	G32R	45.0	389.03	409.03-389.03
G085	G-26R	53.6	389.24	409.24-389.24
G111[Q]	SWMU12-MW02	38.2	392.91	403.08-393.08
G112[Q]	G-H1	43.2	388.98	408.98-388.98
G005[Q]	B-5D	44.0	385.66	405.66-385.66
G006[Q]	B-6	44.0	383.87	403.87-383.87
G008[Q]	B-8D	50.0	377.94	397.94-377.94
G021[Q]	C-11	49.7	382.06	417.25-382.25
G023[Q]	C-13	49.5	381.63	416.63-381.63
G059[Q]	G-19	45.0	384.30	404.30-384.30
G061[Q]	G-21	40.0	385.81	405.81-385.81
G078[Q]	G-38	39.0	386.35	406.35-386.35
G079[Q]	G-39	39.0	383.97	403.97-383.97
G35[Q]	H-35	60.0	373.82	393.82-373.82
G37[Q]	H-37	46.0	386.18	401.18-386.18
G5B	G-5B	75.2	367.73	377.73-367.73
G91[+Q]	M-1D	39.7	387.96	+ -387.96
G92[+Q]	M-2D	40.4	385.95	+ -385.95
G93L[+Q]	M-3D	40.8	386.01	+ -386.01
G302	RP-2D	49.0	383.63	393.63-383.63
G303	RP-3D	44.0	388.66	398.66-388.66
H31B[Q]	H-31B	74.8	357.32	367.32-357.32
Observation Monitoring Wells				
G002	G-01R	38.2	390.40	410.00-390.40

IEPA Well No.	Facility Well No.	Well Depth (ft.)	Well Depth Elevation (ft. MSL)	Well Screen Interval (ft. MSL)
Observation Monitoring Wells				
G009	B-9	49.0	382.63	407.63-382.63
G10L	H-20	58.5	371.82	396.82-376.82
R11L	H-21R	57.0	371.85	391.85-371.85
G011	C-1	49.5	380.48	415.48-380.48
G013	C-3	49.5	380.58	415.58-380.58
G13L	H-23	51.5	380.13	408.63-388.63
G14L	H-24	57.0	372.91	397.91-377.91
G16L	H-26A	55.0	378.31	408.31-378.31
G016	C-6	49.5	381.03	416.03-381.03
G017	C-7	49.5	382.13	417.13-382.13
G18+	H-28	53.0	392.31	+ -392.31
G19	H-29	55.0	378.81	408.81-378.81
G020	C-10	49.5	381.28	416.28-381.28
G22R	C-12R	54.7	378.25	398.25-378.25
G30R	H-30R	42.8	388.21	408.66-388.66
G31R	H-31R	42.2	390.2	410.40-390.40
G33	H-33	44.4	386.90	407.29-387.29
G34	H-34	60.0	371.69	391.69-371.69
G36R	C-26R	34.1	392.85	402.85-392.85
G39+	H-39	42.1	385.39	+ -385.39
G042	G-2D	43.0	391.67	411.67-391.67
G046	G-6	50.0	391.40	411.40-391.40
G047	G-7	47.9	381.70	402.60-382.60
G048	G-8	48.0	381.50	401.50-381.50
G049	G-9	47.0	382.20	402.20-382.20
G050	G-10	44.0	386.50	406.50-386.50
G056	G-16	30.0	395.70	415.70-395.70
G057	G-17	35.0	391.90	411.90-391.90
G058	G18	36.0	391.20	411.20-391.20
G060	G-20	39.0	388.90	408.90-388.90
G064	G-24	49.0	387.90	407.90-387.90
G065	G-25	55.0	389.50	409.50-389.50
G71L	G-31	58.7	387.18	407.18-387.18
G77L	G-37	55.0	387.69	407.69-387.69
G082	G-42	39.0	388.96	408.96-388.96

IEPA Well No.	Facility Well No.	Well Depth (ft.)	Well Depth Elevation (ft. MSL)	Well Screen Interval (ft. MSL)
Observation Monitoring Wells				
G083	G-4DR	44.9	392.99	411.83-392.99
G83L	H-3	52.5	375.13	400.13-380.13
G84L	H-4	59.0	373.93	398.93-378.93
G85L	H-5	64.0	376.31	414.31-381.31
G86L	H-6	64.3	376.20	401.20-381.20
G87L	H-7	51.5	376.63	401.63-381.63
G89L	H-9	53.5	376.43	401.43-381.43
G91L	H-11	63.5	373.01	398.01-378.01
G92L	H-12	69.0	374.28	411.28-379.28
G96L	H-16	58.5	372.90	397.90-377.90
G97L	H-17	58.0	377.12	402.12-382.12
G98L	H-18	52.5	378.23	403.23-383.23
G99L	H-19	53.5	376.67	402.17-382.17
G301	RP-1	50.1	377.28	387.28-377.28
G304	RP-4D	49.0	382.34	396.34-386.34
G305	RP-5	49.0	380.42	390.42-380.42
G306	RP-6	49.0	381.10	391.10-381.10
G307	RP-7D	49.0	383.42	393.42-383.42
G417	B-17	51.0	380.44	400.44-380.44

Notes:
+ = Well construction information is incomplete
Q = Sample quarterly for a total of one (1) year.

2. The Permittee shall maintain the Gradient Control Wells (Cone of Depression (COD) Wells) identified in the table below to allow for the withdrawal of contaminated groundwater, as well as, the measurement of water levels to verify the flow of groundwater is adequately controlled as required by Condition V.A.1 above. The Permittee shall maintain the Hydrocarbon Recovery Wells identified in the table below to allow for the withdrawal of hydrocarbon product as required by Condition V.A.4 above.

IEPA Well No.	Facility Well No.	Well Depth (ft.)	Well Depth Elevation (ft. MSL)	Well Screen Interval (ft. MSL)
Gradient Control Wells				
G662	PW-62	101.0	330.28	365.28-330.28
G664	PW-64	118.0	309.40	344.40-309.40
G665	PW-65	120.0	313.20	348.20-313.20
G666	PW-66	124.0	310.15	345.15-310.15
Hydrocarbon Recovery Wells				
G601	RC-1	56.0	373.40	393.40-373.40
G602	RC-2	55.0	374.96	394.96-374.96
G603	RC-3	51.0	379.39	399.39-379.39
G604	RC-4	49.5	382.18	402.18-382.18
G605	RC-5	49.8	380.56	401.27-381.27
G606	RC-6	55.0	373.27	408.27-378.27
G607	RC-7	58.5	368.97	403.97-373.97
G608	RC-8	61.0	364.90	399.90-369.90
G609	RC-9	64.0	367.40	402.40-372.40
G610	RC-10	69.0	366.61	401.61-371.61
G611	RC-11	70.0	369.96	404.96-374.96
G612	RC-12	73.0	368.21	395.21-373.21
G613	RC-13	60.0	371.25	406.25-376.25
G614	RC-14	59.5	371.60	406.60-376.60
G615	RC-15	58.4	371.77	407.15-377.15
G616	RC-16	65.0	367.61	402.61-372.61
G617	RC-17	58.0	370.41	392.41-375.41
G618	RC-18	57.5	371.76	411.76-376.76
G619	RC-19	58.0	368.92	408.92-373.92
G620	RC-20	85.4	344.72	406.49-349.72
G629	RC-H-29	57.6	379.88	410.48-379.88

Notes:
+ = Well construction information is incomplete

3. Construction of each monitor well/piezometer must be in accordance with the diagram contained in Attachment B to this Permit, unless otherwise approved in

writing by the Illinois EPA. All new monitoring wells/piezometers to be installed must be continuously sampled and logged on Illinois EPA boring logs as provided in Attachment B unless otherwise approved by the Illinois EPA. A monitoring well completion form is provided in Attachment B.

4. The Permittee shall notify the Illinois EPA within thirty (30) days in writing if any of the wells identified in Conditions V.D.1 and V.D.2 are damaged or the structural integrity has been compromised causing the well not to serve its function or to act as a contaminant pathway. A proposal for the replacement of the subject well shall accompany this notification. The well shall not be plugged until the new well is on-line and monitoring data has been obtained and verified, unless the well is extremely damaged or would create a potential route for groundwater contamination. Prior to replacing the subject well, the Permittee shall obtain written approval from the Illinois EPA regarding the proposed installation procedures and construction.

5. Should any well become consistently dry or unserviceable, a replacement well shall be provided within ten (10) feet of the existing well. This well shall monitor the same zone as the existing well and be constructed in accordance with the current Illinois EPA groundwater monitor well construction standards at the time that the wells are replaced. A replacement well which is more than ten (10) feet from the existing well or which does not monitor the same geologic zone must be approved by the Illinois EPA and designated as a new well. The Illinois EPA well plugging and abandonment procedures are provided in Attachment B.

6. The Permittee shall submit boring logs, construction diagrams and datasheets from installation and development of a new or replacement well to the Illinois EPA at the address below within thirty (30) days of the date that installation of the well is completed. In addition, the Permittee shall submit certification that plugging and abandonment of a well was carried out in accordance with the approved procedures to the Illinois EPA at the address below within thirty (30) days of the date that the well is plugged and abandoned. All pertinent information should be submitted to the appropriate State agencies.

Illinois Environmental Protection Agency
Bureau of Land -- #33
Permit Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

7. All wells/piezometers shall be clearly identified and shall be equipped with protective caps and locks. Monitoring wells or piezometers located in high traffic areas must be protected with bumper guards.

8. All groundwater monitoring wells and piezometers not utilized in the approved groundwater monitoring system, but retained by the facility, must be constructed and maintained in accordance with 77 Ill. Adm. Code 920 regulations. Monitoring wells and piezometers that are improperly constructed must be abandoned in accordance with Condition V.D.4.

E. GROUNDWATER PROTECTION STANDARD

1. The following hazardous constituents and their concentration limits (35 Ill. Adm. Code 620, Class I, Groundwater Quality Standards) comprise the groundwater protection standard for the groundwater monitoring wells found in Conditions V.D.1.

Field Parameters	Storet	Units
pH	00400	
Specific Conductance	00094	micromos/cm
Temperature of Water Sample	00011	(°F)
Turbidity	45626	Ntus
Depth to Water (below land surface)	72019	Feet
Depth to Water (below measuring point)	72109	Ft bgs
Elevation of Groundwater Surface	71993	Ft MSL
Elevation of Bottom of Well #	72020	Ft MSL
Elevation of Measuring Point (Top of casing)##	72110	Ft MSL

Shall be determined during the first semi-annual sampling event each year.
Shall be surveyed once every five (5) years, or at the request of the Illinois EPA, or whenever the elevation changes as required by Condition V.J.9.a.

Hazardous Constituents	Storet No.	Concentration Limits (mg/L)
Metals		
Antimony	01097	0.006
Arsenic	01002	.05

Hazardous Constituents	Storet No.	Concentration Limits (mg/L)
Metals		
Barium	01007	2.0
Beryllium	01012	0.004
Cadmium	01027	0.005
Chromium	01034	0.1
Cobalt	01037	1.0
Lead	01051	0.0075
Mercury	71900	0.002
Nickel	01067	0.1
Selenium	01147	0.05
Vanadium	01087	0.049
VOCs		
1,2-Dichloroethane	34531	0.005
1,3-Dichlorobenzene	34561	0.0002
1,4-Dichlorobenzene	34571	0.075
2-Butanone (MEK)	81595	4.2
Benzene	34030	0.005
Carbon Disulfide	77041	0.7
Chlorobenzene	34301	0.1
Chloroform	32106	0.0002
Ethylbenzene	78113	0.7
Toluene	34010	1.0
Total Xylenes	34020	10.0
Methyl Tertiary-Butyl Ether	46491	0.07
Styrene	77128	0.1
SVOCs		
2,4-Dimethylphenol	34606	0.14
2,4-Dinitrophenol	34616	0.014
2-Methylphenol (o-cresol)	77152	0.35
4-Methylphenol (p-cresol)	77146	0.035
4-Nitrophenol	34646	--
Anthracene	34220	2.1
Benzo(a)anthracene	34526	0.00013
Benzo(a)pyrene	34247	0.0002
Benzo(b)fluoranthene	34230	0.00018

Hazardous Constituents	Storet No.	Concentration Limits (mg/L)
SVOCs		
Benzo(k)fluoranthene	34242	0.00017
Bis(2-ethylhexyl)phthalate	39100	0.006
Butyl benzyl phthalate	34292	1.4
Chrysene	34320	0.0015
Dibenzo(a,h)anthracene	34556	0.0003
Diethyl phthalate	34336	5.6
Dimethyl phthalate	34341	--
Di-n-butyl phthalate	39110	0.7
Di-n-octyl phthalate	34596	0.14
Fluoranthene	34376	0.28
Naphthalane	34696	0.14
Phenanthene	34461	0.21
Phenol	34466	0.035
Pyrene	34469	0.1
Pyridine	77045	0.007

-- Not available

2. Alternate concentration limits may be established where the Permittee can determine a constituent will not pose a substantial hazard to human health or the environment.

   a. Where a hazardous constituent has a standard in 35 Ill. Adm. Code 620, the facility must apply for an adjusted standard as outlined in Section 28.1 of the Environmental Protection Act or reapply once corrective measures have been implemented pursuant to 35 Ill. Adm. Code 620.450.

   b. For those hazardous constituents without a 35 Ill. Adm. Code 620 standard, the alternative concentration limits proposed by the facility must be approved by the Illinois EPA.

3. The compliance period (post-closure period) during which the groundwater protection standard applies shall be extended until the Permittee demonstrates that the groundwater protection standard has not been exceeded at the point of compliance for three (3) consecutive years.

F. GROUNDWATER MONITORING PROGRAM

The Permittee shall conduct the Corrective Action Program and perform groundwater monitoring detailed in this section, in accordance with the following:

1. The Permittee shall monitor the Observation wells and the GMZ Boundary Wells designated in Condition V.D.1 for the hazardous constituents listed in Condition V.E.1 above. Samples must be collected as follows:

   a. Observation wells must be sampled semi-annually; and

   b. GMZ Boundary wells must be sampled quarterly or semi-annually, as identified in Condition V.D.1. The GMZ Boundary Wells that require quarterly sampling will be sampled quarterly for one year. After one year, these GMZ Boundary Wells will be sampled on a semi-annual basis.

2. In accordance with 35 Ill. Adm. Code 620.250, a GMZ is a three dimensional region containing groundwater being managed to mitigate impairment caused by the release of contaminants from the facility. The following groundwater monitoring wells shall define the outermost horizontal and vertical extent of the approved GMZ:

   a. GMZ Boundary Wells listed by location:

      - Northern Boundary: H-31B, G084, G073, R063, G062, G067, G068, G69R, G76L, G75L, and G74L;
      - Eastern Boundary: G055, G045, G-5B, G085, G04R, RG36, G35, G005, G91, G92, G93L, G006, and G008;
      - Southern Boundary: G37, G111, G112, and G302; and
      - Western Boundary: G303, G023, G021, G078, G079, G059, G32R, and G061.

   b. Vertical boundaries of the GMZ shall range from the approximate top of the uppermost aquifer (30 feet bgs) to the top of the bedrock surface at the Main Plant property.

c. The GMZ Boundary Wells, as identified in Condition V.F.2.a, shall be used for statistical evaluations of groundwater quality data as follows:

i. The groundwater quality data shall be statistically evaluated for the constituents required by Condition V.E.1, in accordance with the trend analysis described in the Class 1* Permit Modification Request", dated April 21, 2009.

ii. The facility must test the data for seasonality to verify that the Mann-Kendall test is appropriate.

iii. The trend analysis must be performed on all GMZ Boundary wells annually, until the end of corrective action.

iv. The results of the statistical evaluation shall be included with the second semi-annual groundwater monitoring report required by Condition V.I.14 of the Permit.

v. If the Permittee determines that a statistically significant increase has occurred for any COCs identified in Condition V.E.1, that are detected at least once during the most recent eight (8) sampling events, the Permittee must notify the Illinois EPA in writing within seven (7) days. The notification must indicate what concentration limits have been exceeded.

vi. Within ninety (90) days of a statistically significant increase, the Permittee must submit an evaluation of the effectiveness of the corrective action to manage the impact to groundwater as identified by the statistically significant increase.

vii. If the report, required in Condition V.F.2.c.vi, concludes the corrective action is not effective in managing the impact to groundwater, the Permittee must submit an application for a permit modification to make any appropriate changes to the program.

d. The results of monitoring the GMZ shall be submitted to the Illinois EPA semi-annually in accordance with the schedule found in Condition V.I.2.

e. The GMZ expires when all groundwater monitoring wells within the GMZ have attained the appropriate Class I concentration limits that comprise the groundwater protection standard found in Condition V.E.1.

f. The appropriate Class I concentration limits shall be considered attained when groundwater monitoring results meet the appropriate concentration limit for two (2) consecutive years.

3. The Corrective Action Program shall control the horizontal and vertical flow in the vertical column of water present in the uppermost aquifer beneath the facility and monitor the position and rate of migration of the Hydrocarbon Pool as follows:

a. The pumping from the Gradient Control Wells (COD well) shall maintain the cone of depression to ensure groundwater flow is adequately controlled in the uppermost aquifer.

b. The pumping rate from each Gradient Control Well (COD well) shall be recorded daily. This data shall be used to calculate the monthly average withdrawal rate for the Gradient Control System.

4. The Permittee shall monitor the groundwater horizontal and vertical gradients in the uppermost aquifer beneath the facility.

5. The Permittee shall record the following measurements and submit to the Illinois EPA semi-annually as required by Condition V.I.2.

a. A record of the amount of groundwater withdrawn each day by the COD wells.

b. Quarterly monitoring of the piezometric head at wells identified in Condition V.D.1 above to demonstrate that groundwater flow is properly controlled throughout the contaminated area requiring corrective action.

c. The amount of hydrocarbon recovered from each recovery well and the entire system.

d. The measured thickness of hydrocarbon product encountered at each well identified in Condition V.D.1 and V.D.2.

6. The Permittee shall determine the groundwater flow rate and direction in the uppermost aquifer at least annually from the monitoring wells listed in Condition V.D.1.

7. The groundwater quality in the uppermost aquifer shall be monitored on a quarterly or semi-annual basis at each of the wells identified in Condition V.D.1, and submitted to the Illinois EPA semi-annually, as identified in Condition V.I.2.

8. If the groundwater gradient is not maintained, as required by Condition V.F.3, or a contamination is migrating beyond the GMZ Boundary Wells, the Permittee shall submit an application for a permit modification, as required by Condition V.J.

9. Prior to making any changes on-site which might affect the overall program associated with controlling the groundwater flow as required by Condition V.F.3 of the permit (i.e., maintain and verify an inward gradient), the Permittee must obtain written permission from the Illinois EPA. Detailed information regarding the changes shall be submitted to the Illinois EPA at least 120 days prior to the date that the change is to be made. Disapproval or approval with modifications of any written requests for changes shall be subject to the appeal provisions of Section 40 of the Illinois Environmental Protection Act.

10. The Permittee shall maintain all equipment associated with withdrawal and treatment of water withdrawn from the uppermost aquifer to adequately control groundwater flow. This includes maintenance of any pollution control equipment (i.e., air pollution and water pollution control equipment) necessary for these activities.

G. GROUNDWATER ELEVATIONS

1. The Permittee shall determine the groundwater surface elevation referenced to MSL at each well each time groundwater is sampled in accordance with Condition V.I.3.

2. The Permittee shall report the surveyed elevation of stick-up and ground surface referenced to MSL once every five (5) years or at the request of the Illinois EPA, or whenever the elevation changes in accordance with Condition V.I.9.

3. Elevation, as referenced to MSL, of the bottom of each monitoring well (STORET 72020), is to be reported at least annually. The mandatory measurement shall be taken during the second quarter sampling event each year.

H. SAMPLING AND ANALYSIS PROCEDURES

The Permittee shall follow the techniques and procedures described in Volume 2, Section 3 of the approved Permit Renewal Application, except as modified below, when obtaining and analyzing samples from the groundwater monitoring wells described in Condition V.D.1:

1. Samples shall be collected by the techniques described in Section 3.5 of Volume 2, of the approved Permit Renewal Application.

2. Samples shall be preserved, shipped and handled in accordance with the procedures specified in Sections 3.6 through 3.9 of Volume 2, of the approved Permit Renewal Application.

3. Samples shall be analyzed according to the procedures specified in Section 3.5 of Volume 2, of the approved Permit Renewal Application. Groundwater analysis must be in accordance with the applicable methods found in USEPA's "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846) Third Edition, Final Update III (December 1996), or the most current SW-846 Method.

4. Samples shall be tracked and controlled using the chain-of-custody procedures specified in Section 3.10.2 of Volume 2 of the approved Permit Renewal Application.

5. The Permittee must submit a Class 1* modification request to revise the Standard Operating Procedures for Low Flow Groundwater Sample Acquisition, within ninety (90) days of the effective date of this Renewal Permit, to provide requirements for pump placement that are better suited for sampling dissolved light non-aqueous phase liquid constituents.

I. REPORTING AND RECORDKEEPING

1. The Permittee shall enter all monitoring, testing and analytical data obtained in accordance with Conditions V.E, V.F and V.G into the operating record.

2. Samples collected to meet the requirements of the groundwater monitoring program described in Conditions V.E, V.F and V.G shall be collected and reported as identified in the table below. The results of the analyses conducted on the groundwater quality samples shall be submitted in accordance with this schedule. All additional data collected for the groundwater monitoring program as specified

in Conditions V.E, V.F and V.G shall also be submitted to the Illinois EPA in accordance with this schedule.

Sampling Event of Calendar Year	Samples to be Collected During the Months of	Results Submitted to the Agency by the Following
First Quarter	January - February	July 15
Second Quarter	April - May	July 15
Third Quarter	July - August	January 15
Fourth Quarter	October - November	January 15

3. Groundwater surface elevation data, measured pursuant to Condition V.G.1, shall be collected quarterly and submitted to the Illinois EPA as identified in Condition V.I.2.

4. Groundwater withdrawal rates, calculated pursuant to Condition V.F.5 shall be submitted semi-annually as identified in Condition V.I.2.

5. Gradient control measurements collected pursuant to Condition V.F.5 shall be submitted to the Illinois EPA semi-annually as identified in Condition V.I.2.

6. Statistical evaluations, as required by Condition V.F.2.c, shall be submitted to the Illinois EPA as a part of the second semi-annual report as identified in Condition V.I.2 (January 15).

7. The groundwater flow rate and direction, determined pursuant to Condition V.F.6, shall be submitted annually as a part of the second quarter report as identified in Condition V.I.2.

8. Groundwater quality samples collected to meet the requirements of Condition V.F.1 shall be collected quarterly or semi-annually and submitted to the Illinois EPA as identified in Condition V.I.2. The extent of dissolved contamination must be depicted on figures as needed to define the extent of contamination.

9. The Permittee shall report the surveyed elevation, as required by Condition V.G.2, of the top of the well casing ("stick-up"), referenced to MSL, in accordance with the following schedule:

a. For wells identified in Condition V.D.1 above, every five (5) years (during the second semi-annual sampling event), or at the request of the Illinois EPA, or whenever the elevation changes.

b. For any new wells, at the time of installation and reported in the as-built diagrams. Subsequent measurements shall be made every five (5) years (during the second quarter sampling event) or whenever the elevation changes.

10. Elevation of the bottom of each monitoring well identified in Condition V.D.1, referenced to MSL, is to be reported annually. This measurement shall be taken during the second quarter sampling event (Storet 72020).

11. Information required by Conditions V.I.2, V.I.3, V.I.9 and V.I.10 must be submitted in an electronic format. The information is to be submitted as fixed-width text files formatted as found in Attachment B of this permit, in accordance with the schedule found in Condition V.I.2. Additional guidance regarding the submittal of the information in an electronic format can be found at www.epa.state.il.us/land/regulatory-programs/permits-and-management/index.html.

12. The Permittee shall submit a completed "RCRA Facility Groundwater, Leachate and Gas Reporting Form" (LPC 592) as a cover sheet for any notices or reports required by the facility's permit for identification purposes. Only one (1) copy of the LPC 592 must accompany your submittal. However, the Permittee must submit one (1) original and (excluding the groundwater and leachate monitoring results submitted in an electronic format) a minimum of two (2) copies of each notice or report you submit to the Illinois EPA. The form is not to be used for permit modification requests.

13. The Permittee shall report all information to the Illinois EPA in a form which can be easily reviewed. All submittals must contain tables of data, drawings, and text (as necessary) to accurately describe the information contained in the submittal.

14. The Permittee shall submit a written report to the Illinois EPA, in accordance with the schedule found in Condition V.I.2, which discusses the effectiveness of the corrective action program. At a minimum, the report must:

a. Address the information requirements in Conditions V.D, V.E, V.F and V.G.

b. Evaluate the effectiveness of the hydraulic control and contaminant removal from the GMZ including the information required by Condition V.E.

c. Provide a discussion of any change in the quality of groundwater beneath the facility which has resulted from the corrective action.

15. If the Permittee determines that groundwater flow is not being adequately controlled, the Permittee shall:

a. Notify the Agency in writing within seven (7) days of the date that this determination is made;

b. Take actions as necessary to regain the control of groundwater flow as required by Condition V.F.3.

c. Submit a written report to the Illinois EPA within thirty (30) days describing the actions taken to regain control of groundwater flow. In addition, the report must contain information which demonstrates that groundwater flow is being adequately controlled.

d. Submit a request for permit modification to the Illinois EPA within sixty (60) days describing any changes which must be made to the corrective action program to ensure that the groundwater flow is adequately controlled.

J. REQUEST FOR PERMIT MODIFICATION

1. If the Permittee determines that the corrective action program required by this permit no longer satisfies the requirements of 35 Ill. Adm. Code 724, Subpart F, the Permittee must, within 90 days, submit an application for permit modification to the Bureau of Land of the Illinois EPA to make any appropriate changes to the program which will satisfy the regulations.

2. Conditions in this section of the permit may be modified by the Illinois EPA in accordance with 35 Ill. Adm. Code 702.183 and 705.128 if there is cause for such modification, as defined in 35 Ill. Adm. Code 702.184. Causes for modification in this section of the regulations include, but are not limited to, alterations to the

permitted facility, additional information which would have justified the application of different permit conditions at the time of permit issuance, and new regulations.

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SECTION VI
REPORTING AND NOTIFICATION REQUIREMENTS

The reporting and notification requirements of each section of the RCRA permit are summarized below. This summary is provided to highlight the various reporting and notification requirements of this permit.

Condition	Submittal	Due Date
SECTION III: STANDARD CONDITIONS		
6	Complete application for new permit.	At least 180 days prior to permit expiration.
11	Information requested by Agency and copies of records required to be kept by this permit.	Reasonable time.
14	Notify Agency of planned physical alterations or additions.	At least 15 days prior to planned change.
16	Notify Agency of changes which may result in permit noncompliance.	In advance of changes.
17	Application for permit modification indicating permit is to be transferred.	No later than 90 days prior to change.
19	Submission of any information required in a compliance schedule.	Within 14 days after each schedule date.
20	Report to Agency any non-compliance which may endanger health or environment.	
	Telephone	Within 24 hours after discovery.
	in writing	Within 5 days after discovery.

Condition	Submittal	Due Date
21	Report all other instances of noncompliance.	March 1 of each year along with Annual Report.
SECTION IV: CORRECTIVE ACTION		
I.1.a	Quarterly Summary of Corrective Action Efforts:	
	January – March	April15
	April – June	July 15
	July-September	October 15
	October – December	January 15
I.2	Annual Report of Corrective Action Program Activities	March 1 of each year.
I.3	Final Report for each parcel/area	As corrective action is completed.
SECTION V: GROUNDWATER CORRECTIVE ACTION PROGRAM		
V.D.4	Notify Illinois EPA if any of the wells identified in Condition V.D.1 and V.D.2 are damaged or the structural integrity has been compromised.	Within 30 days of the date the damage is detected.
V.D.6	Provide Illinois EPA boring logs, construction diagrams, and data sheets from new or replacement wells.	Within 30 days of the date installation is complete.
V.I.2	Groundwater monitoring data required each quarter, and additional data required in Conditions V.E., V.F, and V.G.	Semi-annually

Condition	Submittal	Due Date
V.I.3	Collect groundwater surface elevation data, each time the well is sampled.	Semi-annually
V.I.4	Groundwater withdrawal rates.	Semi-annually
V.I.5	Gradient control measurements.	Second Semi-Annual Event (January 15)
V.I.6	Statistical evaluations, as required by Condition V.F.2.c.	Semi-annually
V.I.7	Groundwater flow rate and direction in the uppermost aquifer.	Semi-annually
V.I.8	Collect groundwater samples quarterly or semi-annually, and depict the extent of dissolved contamination to define the extent of contamination.	Semi-annually
V.I.9	The surveyed elevation of the top of well casing.	Every 5 years.
V.I.10	Elevation of the bottom of each monitoring well.	Annually during the second quarter sampling event.
V.I.11	Electronic Reporting.	Semi-annually
V.I.14	Report on effectiveness of corrective action.	Semi-annually
V.I.15.a	Notify the Illinois EPA if groundwater flow is not adequately controlled.	Within 7 days of the determination.
V.I.15.c	Report actions taken to regain control of groundwater flow.	Within 30 days of the determination.
V.I.15.d	Submit a permit modification if any changes must be made to the corrective action program.	Within 60 days of the determination.

Condition	Submittal	Due Date
V.J.1	Submit a permit modification to make any appropriate changes to the program.	Within 90 days of determining correction action is not effective.
V.J.2	Request to modify conditions within Section V.	As needed.

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ATTACHMENT A

Required Scope of Work
for a RCRA Facility Investigation

LPC #1191155001

ILD980700967

RCRA Log No. 147R

August, 2010

ATTACHMENT A

SCOPE OF WORK FOR A RCRA FACILITY INVESTIGATION
Amoco Oil Company's Wood River, Illinois Riverfront Facility
ILD980700967
LPC #1191150001
Part B Log #147

This Scope of Work relates specifically to the RCRA Facility Investigation (RFI) of the solid waste management units identified in Section V of this RCRA Permit, which the Permittee is required to perform under the terms of this RCRA permit. In this Scope of Work, "Agency's DLPC" refers to the Illinois Environmental Protection Agency's Division of Land Pollution Control, "Permittee" refers to Amoco Oil Company-Riverfront Facility and "SWMU" refers to Solid Waste Management Unit.

I. PURPOSE

The purpose of the RFI is to determine the nature and extent of releases of hazardous waste or hazardous constituents, if any, from SWMUs located at the facility and to gather data necessary to prepare a Corrective Action Plan (CAP). Specifically, the information gathered during the RFI will be used to help determine the need, scope and design of a corrective action program.

II. SCOPE OF WORK

The Scope of Work for the RFI is divided into three phases -- Phases I, II and III.

1. The purpose of Phase I is to provide information on the characteristics and integrity of each unit and conduct field activities, as necessary, to determine if a SWMU has released, is currently releasing, or has the potential to release hazardous waste and/or hazardous constituents to the environmental media of concern for each SWMU listed in Section V, Condition B.1 of this permit.

2. Phase II of the RFI will be required if the Agency's DLPC determines from the data obtained in Phase I that, for any SWMU: (1) a release has occurred to an environmental media of concern for that unit, (2) a release is occurring to an environmental media of concern for that unit, or (3) the results of the Phase I investigation are inconclusive. The purpose of the Phase II investigation is to

define the extent of releases to the environmental media of concern from these SWMUs.

3. Phase III of the RFI will be required if the Agency's DLPC determines from the data obtained from Phase II investigations that hazardous wastes or hazardous constituents have migrated to the groundwater from SWMU(s) not initially thought to have potentially released hazardous waste or hazardous constituents to groundwater. The purpose of Phase III is to define the extent of releases both on-site and off-site to the groundwater from SWMUs identified in Phase I or Phase II to have potentially released hazardous waste or hazardous constituents to the groundwater.

Each phase of the investigation is divided into three subparts. The first subpart deals with the development of a RFI Workplan by the Permittee. The second subpart is the implementation of the RFI. The final subpart covers the submission of reports of activities and results of the RFI.

III. RFI WORKPLANS

The Permittee shall prepare a detailed workplan for each phase of the RFI which contains detailed background information related to the facility and the SWMUs listed in Condition B.1 of Section V of the permit and which describes procedures for each phase of the RFI in accordance with the schedule in Section V of the permit. Condition IV.B.1 of the permit also identifies the environmental media of concern for each SWMU which must be investigated and provides additional guidance regarding what the focus of the RFI should be for some of the SWMUs of concern. The RFI Workplan must, at a minimum, contain the information identified in III.A-III.H below. The information in the workplan must be presented in a manner which is similar to the format set forth in these sections. (If it is desired to develop a workplan using some other format, then a checklist must be developed identifying the exact location where each item below is addressed (page number and paragraph)). Information provided in each Phase of the RFI may be incorporated into the workplan for the subsequent Phase by reference. Information already submitted in the Part B permit application may also be incorporated by reference into the workplans when appropriate (any such reference must identify the page on which the information in question is located).

A. GENERAL FACILITY INFORMATION

The following information must be provided (to the extent known) in the Phase I RFI Workplan regarding the facility overall:

1. A description of the facility, including the nature of its business, both past and present. This description should identify (1) the size and location of the facility, (2) the raw materials used and products manufactured at the facility and (3) the Standard Industrial Code which describes the type of activities carried out at the facility;

2. Identification of past and present owners;

3. A discussion of the facility's past and present operations, including solid and hazardous waste generation, storage, treatment and disposal activities;

4. A brief discussion of each of the SWMUs identified in Condition B.1 of Section V of this permit;

5. A description of all significant surface features (ponds, streams, depressions, etc.) and wells within 1,500 feet of the facility;

6. A description of all land usage within 1,500 feet of the facility, including all known SWMUs;

7. Identification of all human populations and environmental systems susceptible to contaminant exposure from releases from the SWMUs within a distance of at least 1,500 feet of the facility;

8. A description of any interim corrective action measures which were or are being planned or undertaken at the facility;

9. Approximate dates or periods of past spills or releases, identification of material spilled, amount spilled, location, and a description of the response actions, including any inspection reports or technical reports generated as a result of the spill or release.

10. A current topographic map(s) showing a distance of at least 1,500 feet around the facility and other information described below, and at a scale of one inch equal to not more than 200 feet. Contours shall be shown on

the map, with the contour interval being sufficient to clearly show the pattern of surface water flow. If such a map is not available, the workplan shall describe the method for generating the map for inclusion in the Phase I report. The map shall clearly show the following:

a. Map scale, North arrow, date, and location of facility with respect to Township, Range and Section;

b. Topography and surface drainage depicting all waterways, wetlands, 100-year floodplain, drainage patterns, and surface water areas;

c. Property lines, with the owners of all adjacent property clearly indicated;

d. Surrounding land use;

e. Locations and boundaries of (1) all solid waste, including hazardous waste, management units, both past and present, (2) spill areas and (3) other suspected areas of contamination;

f. All injection and withdrawal wells, and

g. All buildings, tanks, piles, utilities, paved areas, easements, rights-of-way, and other features including all known past and present product and waste underground tanks or piping.

The map(s) shall be of sufficient detail and accuracy to locate and report all current and future RFI work performed at the site. The base map(s) shall be submitted in the Phase I report and modified in subsequent reports and workplans as appropriate.

B. NATURE AND EXTENT OF CONTAMINATION

The Phase I Workplan must contain the following information, to the extent known, for each of SWMUs identified in Condition B.1 of Section V of the permit:

1. Location of unit/area;

2. The horizontal and vertical boundaries of each unit/area;

3. Details regarding the construction, operation and structural integrity of each unit/area;

4. A description of all materials managed and/or disposed at each SWMU including, but not limited to, solid waste, hazardous wastes, and hazardous constituents to the extent they are known or suspected over the life of the facility including:

   (a) Type of waste or hazardous constituents placed in the units, including source, hazardous classification, quantity and chemical composition;

   (b) Physical and chemical characteristics, including physical form, physical description, general chemical class, cohesiveness of the waste;

5. Quantities of solid and hazardous wastes managed by the unit;

6. The history of the utilization of each SWMU and the surrounding areas, including the period of operation and age of the unit;

7. Methods used to close the unit, if applicable;

8. All available data and qualitative information on the level of contamination present at the SWMU;

9. A description of the existing degree and extent of contamination at each unit area.

10. Identification of additional information which must be gathered regarding 1 thru 9 above;

C. ADMINISTRATIVE OUTLINE

The Permittee shall submit as part of the workplan for each phase of the RFI a general outline defining the RFI objectives, technical approach, and scheduling of tasks during that phase of the RFI. The Permittee shall prepare a Project Management Plan as part of each Phase Workplan which will include a discussion of the technical approach, schedules, budget, and personnel. The Project Management Plan must also include a description of the qualifications of personnel performing or directing the RFI, including contractor personnel. This plan shall also document the overall management approach to the current Phase of the RFI.

D. SITE-SPECIFIC SAMPLING PLANS

The Permittee shall prepare detailed site-specific sampling plans for each phase of the RFI which address all field activities needed to obtain site-specific data. The plans must contain: a statement of sampling objectives, specifications of equipment, analyses of interest, sample types, sample locations and schedules for sampling. Wherever appropriate, sample collection, handling, preservation, preparation and analysis described in Test Methods for Evaluating Solid Wastes, Third Edition, (SW-846), shall be utilized. The plans must address all levels of the investigations, as well as types of investigations conducted on specific environmental media (i.e., soil, air, surface water, groundwater). The plans must describe in detail how each phase of the RFI will be implemented.

1. Phase I Sampling and Analysis Plan

The Phase I Workplan must provide for a determination of the presence or absence of releases of hazardous waste and hazardous constituents into the soil around and under each SWMU or AOC for which soil was listed as an environmental media of concern in Section V, Condition B.1 of this permit, based upon the information present in the Phase I Work Plan. To meet this requirement, the plan must identify:

a. Soils Investigation

(1) The procedures which will be used to describe and characterize the soils in and around the subject SWMU(s) down to the water table, including, but not limited to the following:

(a) Unified Soil Classification;

(b) Soil profile; and

(c) Elevation of water table;

(2) The parameters and hazardous constituents to be used to establish the presence or absence of contamination. These must include, but are not limited to, specific hazardous constituents of wastes known or suspected to have been managed by the SWMU(s) as identified and determined by the unit characterization information presented in the work plan.

(3) The basis for selecting the parameters and constituents in (3) above.

(4) The methodology for choosing sampling locations, depths, and numbers of samples.

(5) Sampling procedures for each parameter or constituent to be analyzed. All soil samples taken must be handled in accordance with 40 CFR 261, Appendix III and the Agency's DLPC soil volatile sampling procedure if volatiles are to be analyzed. All other environmental media samples must be collected and handled in accordance with EPA approved and standardized methods for evaluation of solid wastes.

(6) Analytical methods to be used in the analysis of the samples. If any of these methods is not consistent with those specified in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (U.S. EPA SW-846), a complete description of the methods to be used and the justification for not using the appropriate SW-846 methods must be provided.

(7) Procedures and criteria for evaluating analytical results to establish the presence or absence of any contamination.

2. Phase II Sampling and Analysis Plan

The Phase II Sampling and Analysis plan, if necessary, must describe procedures to determine the nature and extent of hazardous waste and/or hazardous constituents released to the soil. This plan shall address and/or include, at a minimum:

(1) A description of what is known about the horizontal and vertical extent of contamination;

(2) A description of relevant contaminant and environmental chemical properties within the affected source area and plume, including solubility, specification absorption, leachability, exchange capacity biodegradability, hydrolysis, photolysis, oxidation and other factors that might affect contaminant migration and transformation (if known);

(3) Specific contaminant concentrations, if known;

(4) The horizontal and vertical velocity and direction of contaminant movement (if known);

(5) An extrapolation of future contaminant movement (if known); and

(6) The methods and criteria to be used to define the boundaries of the plume(s) of contamination;

(7) The parameters and constituents to be used to establish the presence or absence of a plume of contamination. This must include, but need not be limited to, specific hazardous constituents of wastes known or suspected to have been placed in the SWMUs;

(8) The basis for selecting the parameters and constituents in 7 above;

(9) The methodology for choosing sampling locations depths, and numbers of samples;

(10) Sampling procedures for each parameter or constituent to be analyzed;

(11) Analytical methods to be used in the analysis of the samples. If any of these methods are not identical to those specified in Test Methods for

Evaluating Solid Waste, Physical/Chemical Methods, (US EPA SW-846), a complete description of the methods to be used and the justification for not using the SW-846 methods shall be provided; and

(12) Procedures and criteria for evaluating analytical results to establish the presence or absence of any plume of contamination.

3. Potential Receptors

The Phase I RFI Workplan must provide data describing the human populations and environmental systems within a radius of 1,500 feet of the facility boundary that may be affected by releases from SWMUs must be collected and submitted to the Agency. The following characteristics shall be identified.

a. Local uses and possible future uses of groundwater:

(1) Type of use (e.g. municipal or residential drinking water source, industrial, etc.); and

(2) Location of groundwater users, including wells and discharge areas.

b. Local uses and possible future uses of surface waters draining the facility:

(1) Domestic and municipal;

(2) Recreational;

(3) Agricultural;

(4) Industrial; and

(5) Environmental.

c. Human use of, or access to, the facility and adjacent lands, including, but not limited to:

(1) Recreation;

(2) Agriculture;

(3) Residential;

(4) Commercial;

(5) Zoning; and

(6) Location between population locations and prevailing wind direction.

d. A description of the biota in surface water bodies on, adjacent to, or affected by the facility.

e. A description of ecology of, and adjacent to the facility.

f. A demographic profile of the people who use or have access to the facility and adjacent land, including, but not limited to: age, sex, and sensitive subgroups.

g. A description of any endangered or threatened species near the facility.

4. Hydrogeologic and Hydrologic Investigation

The potential for release to groundwater from a given SWMU must be investigated as part of Phase I of the RFI if prior environmental media investigations or information obtained from the RFA indicate releases from a SWMU may have migrated to the groundwater below the site. The Phase I hydrogeologic and geologic investigation plan must provide descriptions of groundwater monitoring systems which will provide adequate data on the detection, nature, extent and rate, and concentration of any release to the groundwater from each of these units.

Groundwater monitoring will not be required for a given SWMU during the RFI Phase I investigation if the Permittee can demonstrate, based upon data obtained from prior site-specific environmental media investigations that no releases have occurred from the SWMU(s), or, based upon such environmental media investigations, that contaminants from the subject SWMU(s) have not entered the groundwater. Those units in Section V, Condition B.1 of this permit which have "groundwater" as an environmental media of concern are the units for which a Phase I hydrogeologic and hydrologic investigation must be conducted.

The information which must be provided regarding the Phase I investigation of hydrogeology and hydrology at each SWMU identified above includes:

a. Information, as it is available, regarding:

(1) The regional geologic and hydrogeologic characteristics in the vicinity of the facility, including stratigraphy, hydrogeologic flow and the areas of recharge and discharge;

(2) Any topographic or geomorphic features that might influence the groundwater flow system;

(3) The hydrogeologic properties of all of the hydrogeologic units found at the site down to the first bedrock aquitard, including: hydraulic conductivity and porosity, texture, uniformity and lithology; an interpretation of hydraulic interconnections between saturated zones, and zones of significant fracturing or channeling in the unconsolidated and consolidated deposits;

(4) Using the facility map as a base, isopach and structural contour maps, and at least two (2) geologic cross sections showing the extent (depth, thickness, lateral extent) of all hydrogeologic units within the facility boundary, down to the first bedrock aquitard, identifying: all units in the unconsolidated and consolidated deposits; zones of higher permeability or lower permeability that might direct or restrict the flow of contaminants; perched aquifers; and the first saturated zone that may have a potential for migration of contaminants;

(5) The water level or fluid pressure monitoring, including: water level contour maps and vertical gradient sections, well or piezometer hydrographs and interpretation of the flow system, interpretation of any changes in hydraulic gradients, and seasonal fluctuation; and

(6) Any man-made influences that may affect the hydrogeology of the site, identifying local water supply and production wells and other man-made hydraulic structures within 1500 feet of the facility boundary.

b. Procedures for obtaining information identified in III.C.3.b above which was not obtained during preparation of the workplan.

c. Documentation that sampling and analysis of groundwater monitoring wells will be carried out in accordance with the approved Data Collection Quality Assurance Plan as required in III.F. below. The Plan shall provide information on the design and installation of all groundwater monitoring wells. The designs shall be in accordance with the latest version of the Technical Enforcement Guidance Document (TEGD), where appropriate, and the latest version of the Agency's DLPC design criteria. At a minimum:

(1) The groundwater monitoring wells must consist of monitoring wells installed in the uppermost aquifer and in each underlying aquifer (e.g., sand units) which are hydraulically interconnected;

(2) At least one background monitoring well in each aquifer shall be installed hydraulically upgradient (i.e., in the direction of increasing static head) from the limit of the SWMUs, except to the extent that SWMUs in close proximity can be investigated with the same background well system. The number, locations, and depths must be sufficient to yield groundwater samples that are: (a) representative of background quality in the uppermost aquifer and units hydraulically interconnected beneath the facility; and (b) not affected by SWMUs at the subject facility; and

(3) Monitoring wells in each appropriate aquifer shall be installed hydraulically downgradient (i.e., in the direction of decreasing static head) at the limit of the SWMU or at the limit of each group of proximate SWMUs. Their number, locations and depths must ensure that they allow for detection of releases of hazardous waste or hazardous constituents from the SWMU(s).

d. A sampling plan which specifies:

(1) The parameters and constituents to be used to establish the presence or absence of a plume of contamination. These must include, but need not be limited to, specific hazardous constituents of wastes determined to have been placed in or released from the SWMUs (including any possible degradation products);

(2) The basis for selecting the parameters and constituents in (1) above;

(3) The methodology for investigating the hydrostratigraphic units at site, and the locations, depths, and concentration specifications for each monitoring well;

(4) Sampling procedures for each parameter or constituent to be analyzed, including sampling frequency;

(5) Analytical methods to be used in the analysis of the samples. If any of these methods is not consistent with those specified in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (U.S. EPA SW-846), a complete description of the methods to be used and the justification for not using the appropriate SW-846 methods will be provided; and

(6) Procedures and criteria for evaluating analytical results to establish the presence or absence of any plume of contamination.

If the Agency's DLPC determines from the data obtained during the Phase III investigation that releases of hazardous waste or hazardous constituents have occurred to the groundwater or that the data are inconclusive, the Permittee will be required to submit a Groundwater Monitoring Plan to determine the vertical and horizontal distribution of the contaminants identified and to predict the long-term disposition of the contaminants. This groundwater monitoring program will require proposals for establishing the locations, depths, and construction specifications for additional monitoring wells necessary to delineate the extent of any plume. The methodology of the investigation, the sampling procedures, analytical methods, and procedures for evaluating analytical results to establish the extent of the plume shall be the same as above unless specifically identified in the Phase III workplan. The Groundwater Monitoring Plan must also specify the criteria which will be used to determine the limits of the plume.

5. Field screening techniques and other techniques utilized in detecting/evaluating petroleum releases may be used in conducting the RFI, if specifically approved by the Agency. However, detailed laboratory analyses must be used to (1) confirm the data collected using these techniques; (2) identify conclusively the horizontal

and vertical extent of contamination and (3) demonstrate that no additional corrective action is necessary to a particular SWMU.

E. DATA COLLECTION QUALITY ASSURANCE

The Permittee shall prepare a plan to document all monitoring procedures, sampling, field measurements, and sample analysis performed during the investigation so as to ensure that all information, data and resulting decisions are technically sound, statistically valid, and properly documented. This shall be submitted with each Phase Workplan.

Quality Assurance. Sampling methods and equipment, as well as laboratory analytical methods, shall follow guidance in U.S. EPA's SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (see 40 CFR 260.11) if appropriate. All field sampling methods not included in SW-846 must be approved by the Agency's DLPC before they are used in the RFI. This includes methods such as drilling, borings, etc. When applicable, standard procedures, as defined by U.S. EPA, IEPA or ASTM, should be followed. All soil samples which are to be taken must be handled in accordance with 40 CFR, Part 261, Appendix III and the Agency's soil volatile sampling procedures if volatile sampling is required. The analytical methods which will be used must be specified and must be approved by the Agency before they are implemented.

F. DATA MANAGEMENT PLAN

The Permittee shall develop and initiate a Data Management Plan to document and track investigation data and results. This Plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The Plan shall also provide the format to be used to present the raw data and conclusions of the investigation(s). This plan shall be submitted with the Workplan for each Phase of the RFI.

G. IMPLEMENTATION OF INTERIM MEASURES

At any time during the RFI the Permittee may initiate interim measures for the purpose of preventing continuing releases and/or mitigating the results of releases and/or mitigating the migration of hazardous wastes or hazardous constituents. It shall not be necessary to conduct all phases of the RFI investigation if the Agency's DLPC and the Permittee agree that a problem can be corrected, or a release cleaned up, without additional study and/or without a formal CMS.

The Permittee shall submit information on any past or ongoing interim measures which have been or are to be undertaken to abate threats to human health and the environment to the Agency's DLPC for approval. This information shall include, at a minimum:

1. Objectives of the interim measures: how the measure is mitigating a potential threat to human health and the environment and/or is consistent with and integrated into any long term solution at the facility;

2. Design, construction, and maintenance requirements;

3. Schedules for design and construction; and

4. Schedules for progress reports.

If the Agency's DLPC determines that a release cannot be addressed without additional study and/or a formal CMS then the Agency's DLPC will notify the Permittee that these must be performed. Any proposal made under this provision or any other activity resulting from such proposal, including the invocation of dispute resolution, shall not affect the schedule for implementation of the RFI or of any other portion of the permit.

If the Agency determines that interim measures are necessary to protect human health or the environment, the Permittee will be notified by way of a permit modification.

H. HEALTH AND SAFETY PLAN

Under the provisions of 29 CFR 1910 (54 FR 9,295, March 6, 1989), cleanup operations must meet the applicable requirements of OSHA's Hazardous Waste Operations and Emergency Response standard. These requirements include hazard communication, medical surveillance, health and safety programs, air monitoring, decontamination and training. General site workers engaged in activities that expose or potentially expose them to hazardous substances must receive a minimum of 40 hours of safety and health training off site plus a minimum of three days of actual field experience under the direct supervision of a trained experienced supervisor. Managers and supervisors at the cleanup site must have at least an additional eight hours of specialized training on managing hazardous waste operations. As such, a Health and Safety Plan must be contained in the Workplan for each phase of the RFI.

I. IMPLEMENTATION OF RFI

The Permittee shall conduct those investigations necessary to characterize the site, and to determine the nature, rate and extent of migration, and concentrations of hazardous waste and hazardous constituents, if any, released from the SWMU's into the surface water and sediments, groundwater, air, and soil. The investigations must be of adequate technical content to support the development and evaluation of a corrective action program, if one is deemed necessary by the Agency's DLPC.

The investigation activities shall follow the plans and procedures set forth in the Workplan(s) and the RFI schedule. Any actual or anticipated deviations from the Workplan(s) or the RFI schedule shall be reported no later than the time of submission of the next quarterly report required by Section V subsequent to the determination of need or actual deviation from the Workplan. The Permittee may use, when appropriate, previous investigation results to expedite the investigation process.

J. SUBMISSION OF REPORTS AND RESULTS OF RFI ACTIVITIES

The Permittee must prepare and submit quarterly progress reports and a final report on the activities and results of each Phase of the RFI activities as appropriate. The progress reports shall contain at a minimum:

1. An estimate of the percentage of the investigation completed;
2. Summary of activities completed during the reporting period;
3. Summaries of all actual or proposed changes to the Workplan or its implementation;
4. Summaries of all actual or potential problems encountered during the reporting period;
5. Proposal for correcting any problems;
6. Projected work for the next reporting period; and
7. Other information or data as requested in writing by the Agency's DLPC.

The workplans and reports which must be submitted to the Agency for review and approval in accordance with the schedule set forth in the following table:

Facility Action	Due Date
Submission of RFI Phase I Workplan	Within 120 days after effective date of the permit
Completion of RFI Phase I investigation and submission of Phase I Report and Summary	To be specified in the Phase I Workplan
Submission of RFI Phase II Workplan	Within 90 days after notification of the need of Phase II by Agency's DLPC
Completion of RFI Phase II investigation and submission of Phase II Report and Summary	To be specified in the Phase II workplan
Submission of RFI Phase III Workplan	Within 90 days after notification of the need for Phase III
Completion of RFI Phase III investigation and submission of Phase III Report and Summary	To be specified in the Phase III Workplan
Periodic Progress Reports	To be specified in workplans
Submission of Interim Measures Plan	Within 45 days from the date interim measures are determined to be necessary

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ATTACHMENT B

Groundwater Corrective Action Monitoring Program
Attachments

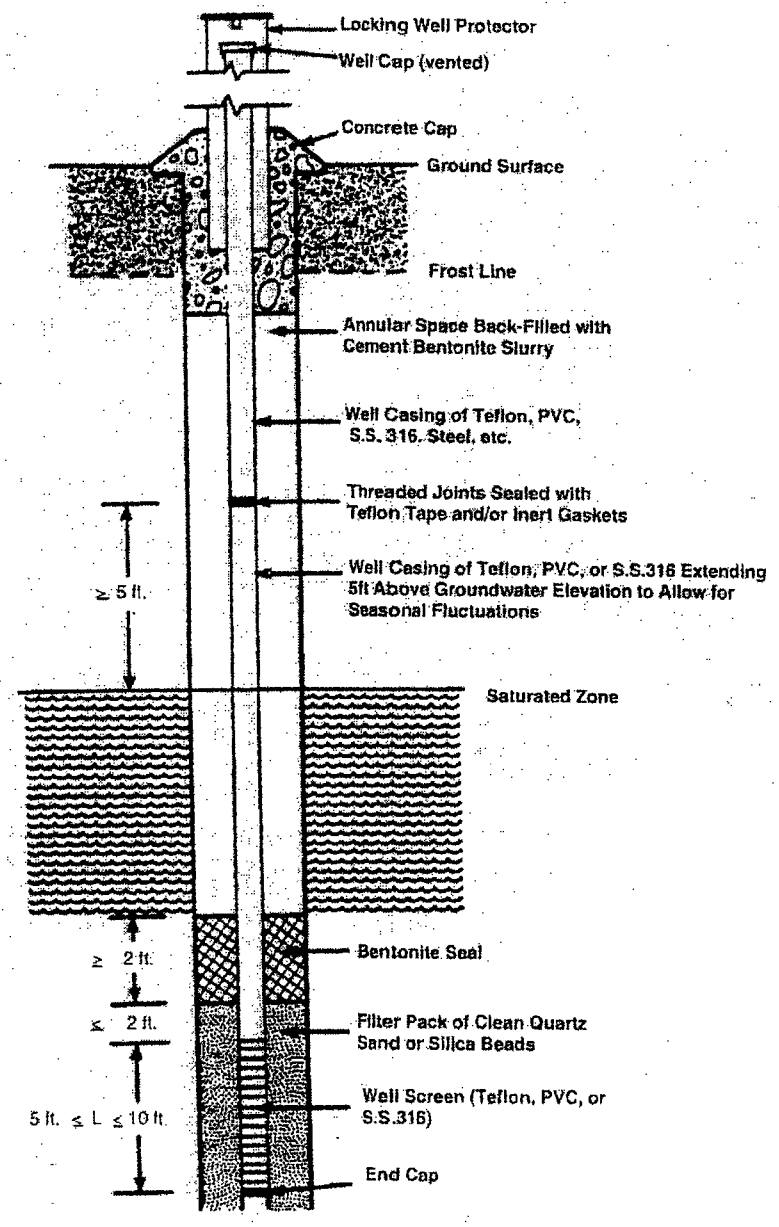
LPC #1191150001

ILD#982700967

RCRA Log No. 147R

August, 2010

Monitoring Well Diagram



Illinois Environmental Protection Agency

Field Boring Log Page ___ of ___

Site ID No. _____ Federal ID No. _____

Site Name: _____

Quadrangle: _____ Sec. _____ T. _____ R. _____

UTM (or State Plane) Coord. N. (X) _____ E. (Y) _____

Latitude: ____ ____ ____ Longitude: ____ ____ ____

Boring Location: _____

Drilling Equipment: _____

County: _____

Boring No. _____ Monitoring Well No. _____

Surface Elevation: _____ Completion Depth: _____

Auger Depth: _____ Rotary Depth: _____

Date: Start: _____ Finish: _____

Elev.	Description of Material	Graphic Log	Depth In Feet	SAMPLES: Sample No.	Sample Type	Sample Recovery (X)	Penetrometer	N Values (Blow Counts)	OVA or HNU Readings	Personnel: G - D - H - H - / REMARKS

Illinois Environmental Protection Agency **Well Completion Report**

Site Number: _____ County: _____

Site Name: _____ Well #: _____

State Plane Coordinate: X _____ Y _____ (or) Latitude: ___ ___ ___ Longitude: ___ ___ ___ Borehole #: _____

Surveyed by: _____ IL Registration #: _____

Drilling Contractor: _____ Driller: _____

Consulting Firm: _____ Geologist: _____

Drilling Method: _____ Drilling Fluid (Type): _____

Logged By: _____ Date Started: _____ Date Finished: _____

Report Form Completed By: _____ Date: _____

ANNULAR SPACE DETAILS

Type of Surface Seal: _____

Type of Annular Sealant: _____

Installation Method: _____

Setting Time: _____

Type of Bentonite Seal - - Granular, Pellet, Slurry
(Choose One)

Installation Method: _____

Setting Time: _____

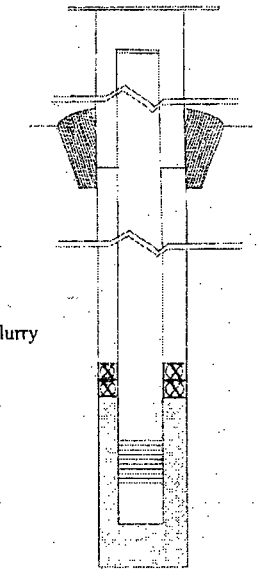
Type of Sand Pack: _____

Grain Size: _____ (Sieve Size)

Installation Method: _____

Type of Backfill Material: _____
(if applicable)

Installation Method: _____



	Elevations (MSL)*	Depths (BGS)	(.01ft.)
	_____	_____	Top of Protective Casing
	_____	_____	Top of Riser Pipe
	_____	_____	Ground Surface
	_____	_____	Top of Annular Sealant
	_____	_____	Static Water Level (After Completion)
	_____	_____	Top of Seal
	_____	_____	Top of Sand Pack
	_____	_____	Top of Screen
	_____	_____	Bottom of Screen
	_____	_____	Bottom of Well
	_____	_____	Bottom of Borehole

* Referenced to a National Geodetic Datum

WELL CONSTRUCTION MATERIAL

(Choose one type of material for each area)

Protective Casing	SS304, SS316, PTFE, PVC, or Other
Riser Pipe Above W.T.	SS304, SS316, PTFE, PVC, or Other
Riser Pipe Below W.T.	SS304, SS316, PTFE, PVC, or Other
Screen	SS304, SS316, PTFE, PVC, or Other

CASING MEASURMENTS

Diameter of Borehole (inches)	
ID of Riser Pipe (inches)	
Protective Casing Length (feet)	
Riser Pipe Length (feet)	
Bottom of Screen to End Cap (feet)	
Screen Length (1st slot to last slot) (feet)	
Total Length of Casing (feet)	
Screen Slot Size **	

**Hand-Slotted Well Screens are Unacceptable

Well Completion Form (revised 02/06/02)

ILLINOIS EPA MONITOR WELL PLUGGING AND ABANDONMENT PROCEDURES

	Well Construction		Plugging Procedure
I. Unconsolidated Sediment Wells	I-A	...if backfilled with cement grout above bentonite seal and/or sandpack:	1. Cut casing off at desired depth. 2. Mix neat cement slurry (5 gal. water per 94 lb. bag cement). 3. Insert tremi pipe (1" i.d. pvc) into well and extend to bottom. 4. Slowly pump slurry under low pressure through temi pipe. 5. Slowly withdraw tremi pipe - making sure bottom of pipe remains below pure slurry. 6. Continue slow pumping until all formation water and the watery slurry mix is displaced from top of casing.
	I-B	...if backfilled with soft sediments (cuttings) above bentonite seal and/or sandpack:	1. Knock out and remove thin surface concrete plug, if present. 2. Re-auger entire length of well. 3. Remove well casing from re-augured borehole. 4. Mix neat cement slurry (5 gal. water per 94 lb. bag cement). 5. Insert tremi pipe (1" i.d. pvc) into augers and extend to bottom. 6. Slowly pump slurry under low pressure through tremi pipe. 7. Continue slow pumping until all formation water and the water slurry mix is displaced from top of casing. 8. Slowly withdraw tremi pipe - making sure bottom of pipe remains below pure slurry. 9. Pull a flight of augers (5" if in unstable materials and hole collapse is likely or 10" if in competent material and collapse is unlikely). 10. Top off cement slurry after each flight is removed.
	I-C	...if monitor well construciton is unknown:	1. Follow procedures in I-A.
II. Bedrock Wells	II-A	...All bedrock monitor wells:	1. Cut casing off at desired depth. 2. Mix neat cement slurry (5 gal. water per 94 lb. bag cement). 3. Insert tremi-pipe (1" i.d. pvc) into well and extend to bottom. 4. Slowly pump slurry under low pressure through tremi pipe. 5. Slowly withdraw pipe making sure bottom of pipe remains below pure slurry. 6. Continue slow pumping until all formation water and the watery slurry mix is displaced from top of casing.

Well Plugging Procedures (revised 02/06/02)

Formatting Requirements for the 01 Record of the Electronically Submitted Groundwater and Leachate Data (the 01 Record portion of the LPC-160 is included for example purposes)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

Page 1 of _____

RECORD CODE: L P C S M 0 1 (1–7) TRANS CODE: A (8)

REPORT DUE DATE ___/___/___ (36 M D Y 41)

FEDERAL ID NUMBER _____

SITE INVENTORY NUMBER _____ (9–18)

MONITOR POINT NUMBER (see Instructions) _____ (19–22)

REGION _____ CO. _____

DATE COLLECTED ___/___/___ (23 M D Y 28)

FACILITY NAME _____

FOR IEPA USE ONLY

LAB _____ (29)

DATE RECEIVED ___/___/___ (42 M D Y 47)

BACKGROUND SAMPLE (X) _____ (54)

TIME COLLECTED (24 Hr. Clock) __:__ (55 H1 M1 58)

UNABLE TO COLLECT SAMPLE (see Instructions) _____ (59)

MONITOR POINT SAMPLED BY (see Instructions) _____ (60) OTHER (SPECIFY) _____

SAMPLE FIELD FILTERED — INORGANICS (X) _____ (61) ORGANICS (X) _____ (62)

SAMPLE APPEARANCE _____ (63–102)

COLLECTOR COMMENTS _____ (103–142)

LAB COMMENTS _____ (150–199)

IL 532 1213
LPC 160 01/90

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 ½, Section 1004 and 1021. Disclosure of this information is required. Failure to do so may result in a civil penalty up to $25,000 for each day the failure continues a fine up to $1,000.00 and imprisonment up to one year. This form has been approved by the Forms Management Center.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

***Only Keypunch with Data in Column 35 or Columns 38-47**

KEY:

Spaces Numbered	Description	Format
Spaces 1-7	Record Code	LPCSM01
Space 8	Trans Code	A
Spaces 9-18	Site ID	0000000000
Spaces 19-22	Mon Pt ID	G000
Spaces 23-28	Date Collected	000000
Space 29	Lab	
Spaces 30-35	Filler	
Spaces 36-41	Report Due Date	000000
Spaces 42-47	Date Received	000000
Spaces 48-53	Filler 2	
Space 54	Background Sample	
Spaces 55-58	Time Collected	0000
Space 59	Unable to Collect Sample	
Space 60	Monitoring Point Sampled By	
Space 61	Field Filtered – Inorganic	
Space 62	Field Filtered – Organic	
Spaces 63-102	Sample Appearance	
Spaces 103-142	Collector Comments	
Spaces 143-149	Filler 3	
Spaces 150-199	Lab Comments	

Formatting Requirements for the 02 Record of the Electronically Submitted Groundwater and Leachate Data (the 02 Record portion of the LPC-160 is included for example purposes)

RECORD CODE | L (1) | P | C | S | M | 0 | 2 (7) | TRANS CODE | A (8) | (COLUMNS 9-29 FROM ABOVE)

	FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE	STORET NUMBER	Remarks See Inst. (35)	Replicate (36)	< or > (37)	VALUE (38-47)
Q	TEMP OF WATER (unfiltered °F)	00011 (30-34)				
Q	SPEC COND (unfiltered umhos)	00094				
Q	pH (unfilted units)	00400				
Q	ELEV OF GW SURF (ft ref MSL)	71993				
Q	DEPTH OF WATER (ft below LS)	72019				
A	BTM WELL ELEV (ft ref MSL)	72020				
Q	DEPTH TO WATER FR MEA PT (ft)	72109				

IL 532 1213
LPC 160 01/90

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***Only Keypunch with Data in Column 35 or Columns 38-47**

KEY:

Spaces Numbered	Description	Format
Spaces 1-7	Record Code	LPCSM02
Space 8	Trans Code	A
Spaces 9-18	Site ID	0000000000
Spaces 19-22	Mon Pt ID	
Spaces 23-28	Date Collected	
Space 29	Lab	

Spaces 30-34	STORET Number
Space 35	Remarks
Space 36	Replicate
Space 37	< or >
Space 38-47	Value

SFN:MLC:mls/101423s.doc